AR0853

RECORD OF DECISION
HASSAYAMPA LANDFILL
SUPERFUND SITE

July 1992

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

I. DECLARATION

A. SITE NAME AND LOCATION

This Record of Decision (ROD) is written for the Hassayampa Landfill Superfund Site (the Hassayampa Landfill Site, the Site), which is located in Maricopa County, Arizona, approximately 40 miles west of Phoenix, Arizona. For purposes of this ROD, the Site shall be defined as the 10-acre area of the 47-acre municipal landfill where hazardous wastes are known to have been disposed, as well as any areas where site-related contaminants have come to be located.

B. STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial action for contaminated soil and groundwater at the Hassayampa Landfill Site, chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA), and, to the extent practicable, the National Oil and Hazardous Substances Contingency Plan (NCP). This decision document is based on the Administrative Record for the Site, the index of which is attached as Appendix C.

C. ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

D. DESCRIPTION OF THE SELECTED REMEDY

The selected remedy for the Hassayampa Landfill Site includes remediation of groundwater and vadose zone (including soil and soil vapor above the water table) contamination. The groundwater component of the remedy includes extraction of contaminated groundwater, treatment of the water using air stripping technology (vapor phase carbon adsorption will be performed as necessary to meet Federal, State, and County regulations pertaining to air emissions), reinjection of the treated water, and continued groundwater monitoring to measure the effectiveness of the remedy. Federal Maximum Contaminant Levels (MCLs) have been chosen as groundwater cleanup standards. For those contaminants detected on Site for which no MCLs exist, Health-Based Guidance Levels proposed by the State of Arizona have been selected as groundwater cleanup standards. The groundwater cleanup standards shall be met at all points within the contaminated aquifer.

The vadose zone component of the remedy includes capping the 10-acre Hazardous Waste Area of the landfill using a cap that complies with the substantive capping and maintenance requirements for Resource Conservation and Recovery Act (RCRA) Interim Status facilities as described in 40 CFR Parts 265.310 and 265.117, and as described in the "EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments." In addition, the vadose zone component of the selected remedy includes performing soil vapor extraction at all locations at the Site where soil vapor levels exceed cleanup standards, treating the soil vapor using vapor phase carbon adsorption or catalytic oxidation technology (to be determined during remedial design), and implementing access and deed restrictions. The soil vapor cleanup standards shall be levels that are protective of groundwater quality (meaning that the migration of contaminants from the vadose zone to groundwater will not result in groundwater contamination that exceeds the groundwater cleanup standards). The soil vapor cleanup standards will be determined through site-specific analytical modeling conducted during the remedial design stage. Additional investigation will also be performed during the remedial design stage in order to determine the extent of groundwater and soil vapor contamination.

E. STATUTORY DETERMINATIONS

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. This remedy uses permanent solutions and alternative treatment technologies to the maximum extent practicable, and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element.

Because the selected remedial action allows contaminated soil to remain onsite in excess of health-based levels, a review will be conducted within five years of commencement of remedial actions to ensure that the remedy continues to provide adequate protection of human health and the environment.

Daniel W. McGovern
Regional Administrator
U.S. EPA Region 9

8.6.92
Date

Record of Decision
Hassayampa Landfill Superfund Site

Concurrence -- Hazardous Waste Management Division

Keith Takata
Jeff Zelikson, Director
Hazardous Waste Management Division

8-4-92
Date

Record of Decision
Hassayampa Landfill Superfund Site

Concurrence -- Office of Regional Counsel

Nancy J. Marvel
Regional Counsel

7/27/92
Date

Record of Decision
Hassayampa Landfill Superfund Site

Concurrence -- Assistant Regional Administrator

Nora McGee
Assistant Regional Administrator

Date

Record of Decision
Hassayampa Landfill Superfund Site

Concurrence -- Water Management Division

for Alexis Strauss
Harry Serayadarian, Director
Water Management Division

13 July 92
Date

Record of Decision
Hassayampa Landfill Superfund Site

Concurrence -- Waste Programs

Laura Yoshii, Deputy Director
Waste Programs

7/10/92
Date

II. DECISION SUMMARY

A. SITE NAME, LOCATION AND DESCRIPTION

1. LOCATION

The Hassayampa Landfill Site is located in a rural desert area approximately 40 miles west of Phoenix, Arizona. The Site is approximately three-fourths of a mile west of the Hassayampa River, one and a half miles northwest of the town of Hassayampa, three miles north of the town of Arlington, and five miles east of the Palo Verde Nuclear Generating Station. Figure 1 depicts the location of the Hassayampa Landfill Site.

The Hassayampa Landfill occupies a fenced 47-acre area located on a 77-acre parcel owned by Maricopa County. The hazardous waste area (HWA) of the landfill occupies a 10-acre area within the northeast section of the landfill. For purposes of this ROD, the Site shall be defined as the 10-acre area of the landfill where hazardous wastes are known to have been disposed, as well as any areas where site-related contaminants have come to be located.

2. LAND USE

The non-hazardous portion of the Hassayampa Landfill is still operated as a municipal landfill. Maricopa County personnel have indicated that the expected life of the non-hazardous portion of the landfill at the current rate of use is an additional ten years. The HWA is fenced and is no longer being used for landfill purposes. Approximately one-sixth of the land surrounding the landfill is cultivated, while the remaining areas are desert. Most of the cultivated land is located east of the Hassayampa River and south of the Arlington Mesa. The immediate vicinity of the landfill is sparsely vegetated. Vegetation consists mainly of creosote bush and salt bush.

3. POPULATION

Presently, the nearest residents live approximately 1,000 meters south of the HWA. Communities located within a three mile radius of the landfill include Hassayampa and Arlington. The combined 1985 census population for these two communities was 1,100 people. A growth rate of one to two percent was used to calculate a current population of 1,120 people. According to the Maricopa County Human Resources Department, a population growth of 10 to 15 percent is expected to occur over the next 20 years within a five mile radius of the Site. Several workers are employed at the non-hazardous portion of the Hassayampa Landfill.

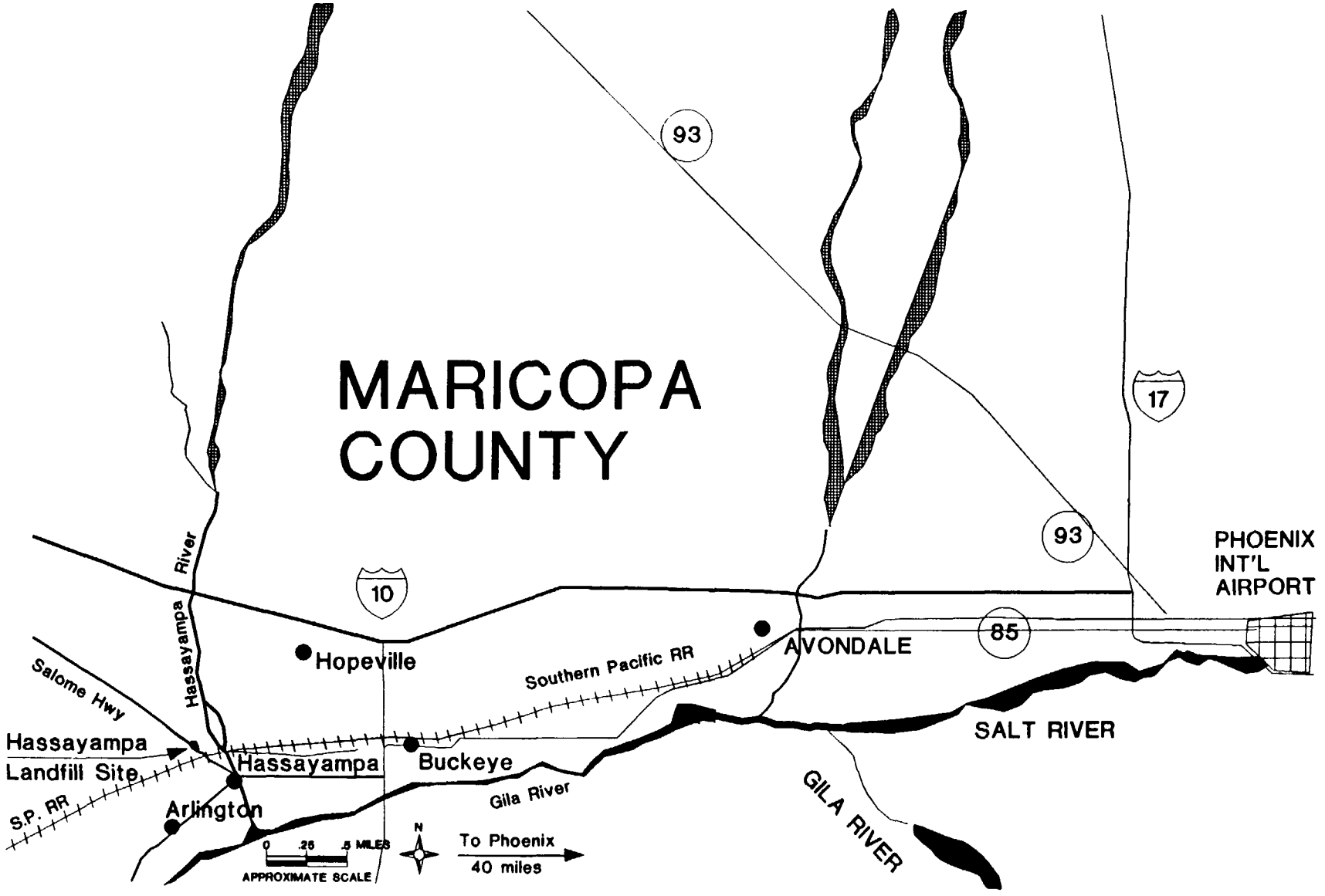

MARICOPA
COUNTY
93
17
93
10
85
PHOENIX
INT'L
AIRPORT
AVONDALE
Hopeville
Southern Pacific RR
Hassayampa River
Salome Hwy
Hassayampa
Landfill Site
S.P. RR
Hassayampa
Buckeye
Arlington
Gila River
SALT RIVER
GILA RIVER
0 .25 .5 MILES
APPROXIMATE SCALE
N
To Phoenix
40 miles

FIGURE 1

4. CLIMATE

The Site is characterized by a dry desert climate. The average precipitation at the Buckeye meteorological station (about nine miles to the east) was 7.08 inches per year, most of which occurred during a few days each year. Precipitation of 0.10 inches or more occurs on an average of 20 days per year. Records from the Buckeye station indicate the average daily maximum temperature is approximately 87° F, and the average daily minimum temperature is approximately 52° F. The average pan evaporation measured at the Salt River Valley station in Mesa (about 54 miles to the east) was about 106 inches per year.

5. TOPOGRAPHY

The Site is located on the broad southward-sloping alluvial plain of the Hassayampa River basin. The basin is bounded on the east by the White Tank Mountains, on the south by the Buckeye Hills, and on the west by the Palo Verde Hills. The surface of the alluvial plain occupied by the Site is generally flat; however, approximately one half mile south of the Site, the plain is broken by the Arlington Mesa. The HWA is currently overlain by a graded soil cover. The altitude of the land surface at the HWA is approximately 910 to 915 feet above mean sea level.

6. SURFACE WATER

The Hassayampa Landfill Site lies within the Hassayampa River drainage area, but outside of the 100-year floodplain of the river. The Site is located about three-quarters of a mile west of the Hassayampa River, which flows to the south. The Site is near a north-trending surface water drainage divide between the Hassayampa River and an unnamed wash to the west, which is a tributary of the Luke Wash. The Hassayampa River and the Luke Wash are ephemeral desert washes that are tributaries of the westward flowing Gila River. Presently the Gila River is perennial at its confluence with the Hassayampa River.

7. GROUNDWATER

Regional hydrogeologic units in the area of the Site include in order of increasing depth: Recent alluvial deposits, basin-fill deposits, and the bedrock complex. Groundwater levels in the vicinity of the Site generally lie below the base of the Recent alluvial deposits. However, where saturated, the Recent alluvial deposits may yield moderate quantities of groundwater to wells. The thickness of the basin-fill deposits appears to exceed 1,200 feet in the vicinity of the landfill. The basin-fill deposits comprise the principal source of groundwater to wells in the area of the Site, and are generally referred to as the regional aquifer. Within a three mile radius of the Site, 349 groundwater wells have been identified, 172 of which potentially service

individual residences. These wells yield groundwater from the regional basin-fill deposits aquifer. The reported depths range from 5 feet below land surface to 250 below land surface. The nearest downgradient domestic well is about 2,500 feet south of the Site.

The basin-fill deposits have been classified in order of increasing depth into the Upper, Middle, and Lower Alluvium units. The Upper Alluvium unit beneath the Site was the target of the hydrogeologic investigations conducted at the Site. For purposes of the Remedial Investigation (RI), the Upper Alluvium unit was subdivided in order of increasing depth into the upper alluvial deposits unit, basaltic lava-flow unit, Unit A, and Unit B (Figure 2).

The upper alluvial deposits unit consists of a coarse-grained part and a fine-grained part. The average depth to the base of the coarse-grained part is about 34 feet; while the average depth to the base of the fine-grained part is about 58 feet. The basaltic lava-flow unit consists of vesicular, basaltic rock and is part of the Arlington Mesa basalt flows. This unit appears to thin and dip towards the north. The presence of contaminated groundwater in Unit A indicates that the basaltic lava-flow unit is not an impermeable unit.

The part of the Upper Alluvium unit from the base of the basaltic lava-flow unit to the top of the Middle Alluvium unit is the uppermost water-bearing part of the regional aquifer, and has been subdivided into Units A and B. There is no confining unit separating Units A and B, and Units A and B are considered to be water-bearing zones within the same aquifer. Unit A comprises the uppermost fine-grained water-bearing unit, while Unit B is the uppermost coarse-grained water bearing unit. Unit B is underlain by a silty clay. This clay has tentatively been classified as the Palo Verde Clay, and appears to comprise the basal confining unit for Unit B.

The direction of groundwater flow in Units A and B is generally to the south, although local variations in the flow direction may occur. The average depth to the water table beneath the Site is 73 feet. Water level contours and potentiometric contours for Units A and B are presented in Figures 3 and 4.

B. SITE HISTORY AND ENFORCEMENT ACTIVITIES

1. HISTORICAL ACTIVITIES

The Hassayampa Landfill is presently owned by Maricopa County and is operated by the Maricopa County Landfill Department. Maricopa County had signed a 20-year lease on the 77-acre parcel from the U.S. Federal Aviation Agency, and after the lease expired in 1963 the parcel was transferred to Maricopa County by quitclaim deed.

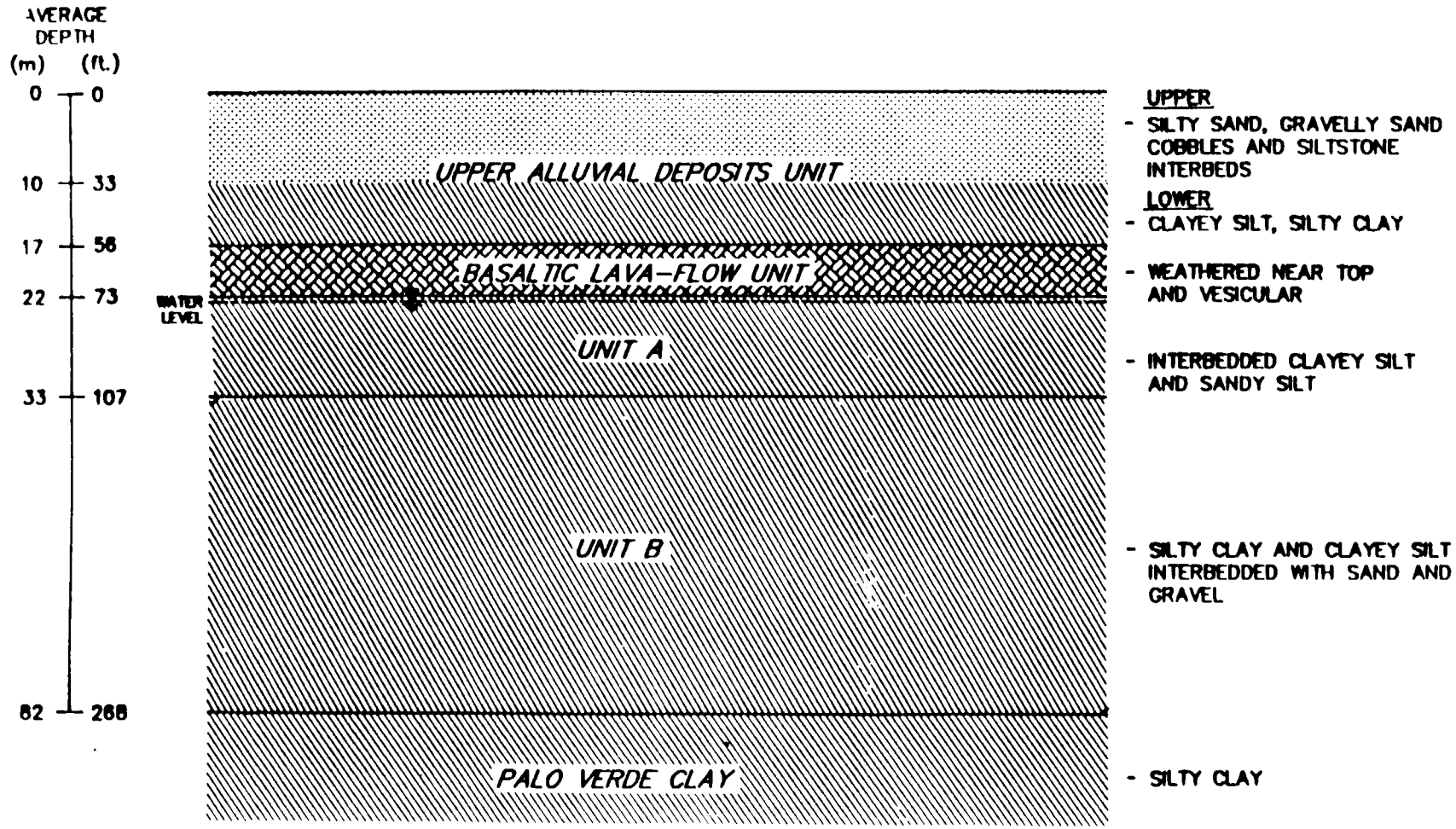


FIGURE 2

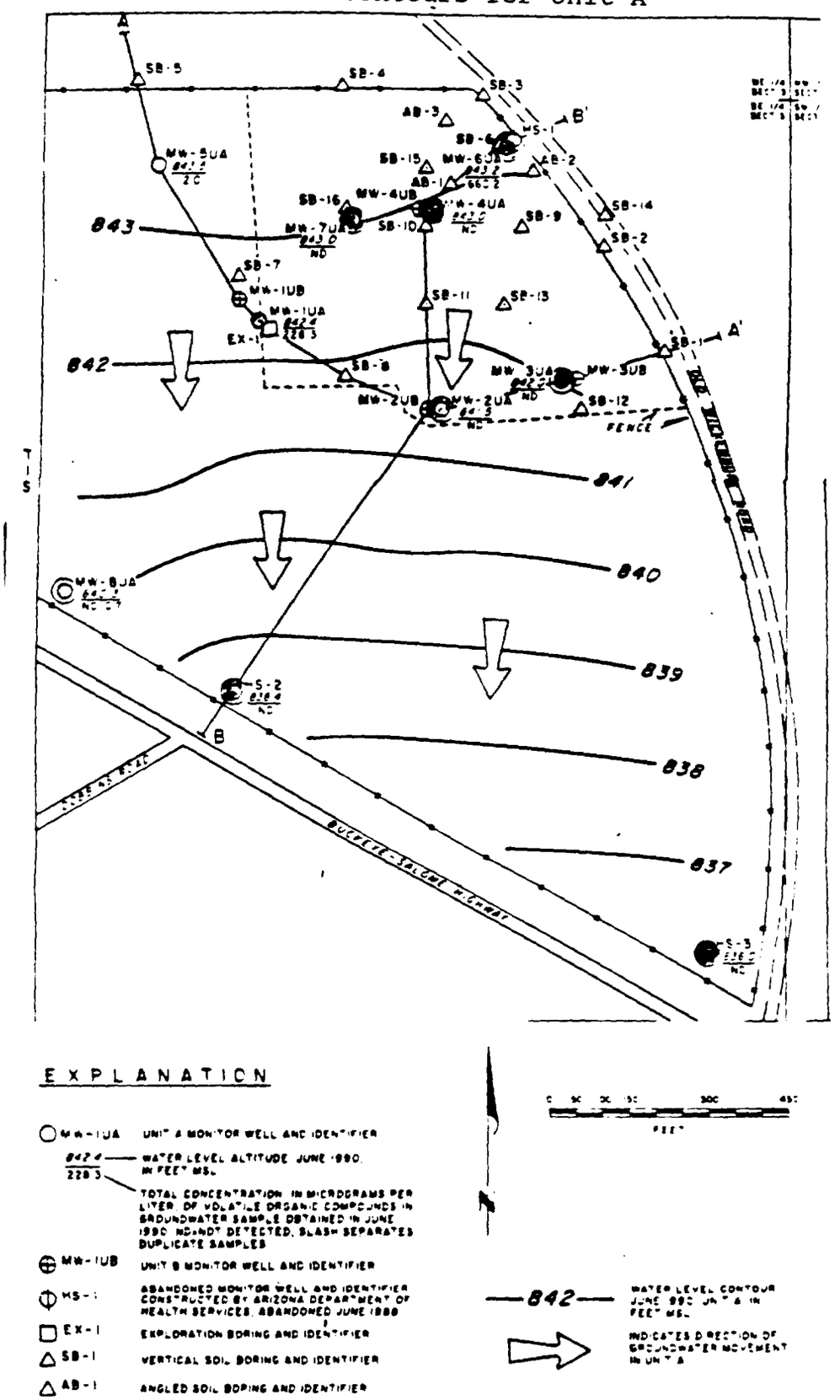
SCHEMATIC HYDROGEOLOGIC CROSS-SECTION
HASSAYAMPA LANDFILL
Maricopa County, Arizona

CRA

2141-26/11/91-10-0

Figure 3

Water-Level Contours for Unit A



EXPLANATION

- MW-1UA — UNIT A MONITOR WELL AND IDENTIFIER
- 842.4 / 228.3 — WATER LEVEL ALTITUDE JUNE 1990, IN FEET MSL; TOTAL CONCENTRATION IN MICROGRAMS PER LITER OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER SAMPLE OBTAINED IN JUNE 1990. ND=NOT DETECTED. SLASH SEPARATES DUPLICATE SAMPLES
- MW-1UB — UNIT B MONITOR WELL AND IDENTIFIER
- MS-1 — ABANDONED MONITOR WELL AND IDENTIFIER CONSTRUCTED BY ARIZONA DEPARTMENT OF HEALTH SERVICES. ABANDONED JUNE 1988
- EX-1 — EXPLORATION BORING AND IDENTIFIER
- SB-1 — VERTICAL SOIL BORING AND IDENTIFIER
- AB-1 — ANGLED SOIL BORING AND IDENTIFIER

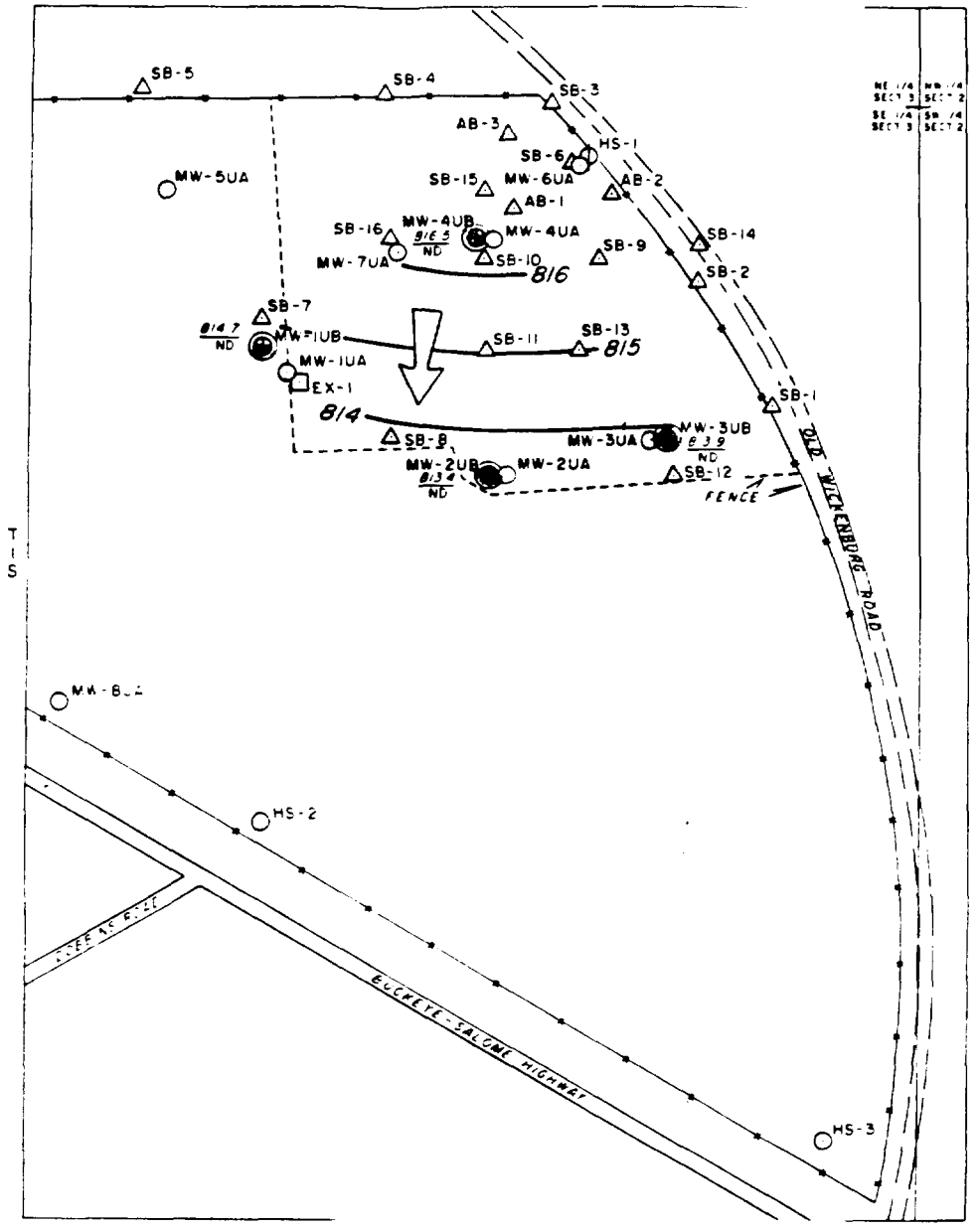
0 300 600 900 FEET

842 — WATER LEVEL CONTOUR JUNE 1990 UNIT A IN FEET MSL

INDICATES DIRECTION OF GROUNDWATER MOVEMENT IN UNIT A

Figure 4

Potentiometric Contours for Unit B



EXPLANATION

- MW-1UA — UNIT A MONITOR WELL AND IDENTIFIER
- MW-1UB — UNIT B MONITOR WELL AND IDENTIFIER
- 847 / ND — POTENTIOMETRIC ALTITUDE JUNE 1990 IN FEET MSL; TOTAL CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER SAMPLE OBTAINED IN JUNE 1990 IN MICROGRAMS PER LITER, ND = NOT DETECTED
- HS-1 — ABANDONED MONITOR WELL AND IDENTIFIER CONSTRUCTED BY ARIZONA DEPARTMENT OF HEALTH SERVICES, ABANDONED JUNE 1988
- EX-1 — EXPLORATION BORING AND IDENTIFIER
- SB-1 — VERTICAL SOIL BORING AND IDENTIFIER
- AB-1 — ANGLED SOIL BORING AND IDENTIFIER

0 50 100 150 300 450
FEET

—816— POTENTIOMETRIC CONTOUR JUNE 1990 UNIT B, IN FEET MSL

INDICATES DIRECTION OF GROUNDWATER MOVEMENT IN UNIT B

Disposal of municipal and domestic waste began at the landfill in 1961 and has continued to the present. According to a 1977 report prepared for the Arizona Department of Health Services (ADHS), the types of waste disposed at the landfill were unrestricted but consisted chiefly of garbage, rubbish, tree trimmings, and other plant refuse. In that report, it was stated that the Hassayampa Landfill was not suitable for the disposal of hazardous waste. Based on this report, Maricopa County prohibited the disposal of hazardous waste at the landfill.

On February 15, 1979, ADHS prohibited disposal of industrial waste at the City of Phoenix's landfills. Because no alternate waste disposal sites were available in Arizona, ADHS characterized the situation as an "extreme emergency." Consequently, ADHS requested that Maricopa County accept hazardous waste at the Hassayampa Landfill for a 30-day period beginning on April 20, 1979. After the initial 30-day period, several time extensions for hazardous waste disposal at the landfill were granted. On October 28, 1980, the disposal of hazardous waste at the Hassayampa Landfill was prohibited.

During the 18-month period from April 20, 1979 to October 28, 1980, disposal of hazardous waste at the landfill was conducted under a manifest program operated by ADHS. An inventory performed by ADHS indicated that a wide range of hazardous wastes consisting of up to 3.28 million gallons of liquid waste and up to 4,150 tons of solid waste were approved by ADHS for disposal at the landfill. However, an inventory conducted by consultants for the potentially responsible parties (PRPs), indicated that the amount of hazardous waste approved by ADHS for disposal consisted of up to 3.44 million gallons of liquid waste and up to 3,710 tons of solid waste.

The hazardous waste area was composed of several unlined pits that were designated for disposal of hazardous or nonhazardous wastes. Pits 1, 2, 3 (including 3a, 3b, and 3c), 4 (including 4a, 4b, and 4c), and the Special Pits were designated for disposal of hazardous waste (Figure 5). The waste types varied greatly and included heavy metals, solvents, petroleum distillates, oil, pesticides, acids, and bases. Specific pits were designated to receive certain types of waste, but it is not clear that this practice was always followed. The designated waste types, the actual received waste types, and the quantities for each pit, as reported in the RI report, are presented in Table 1.

Pits A and B were designated for the disposal of non-hazardous waste. Although Pit A was intended for cesspool and septic tank wastes, other substances (whitish grey sludge, black oily liquid, and pesticide containers) were also disposed (Ecology and Environment, 1981). The contents of Pit B were not well defined. It should be noted that the wastes disposed in Pits A and B were

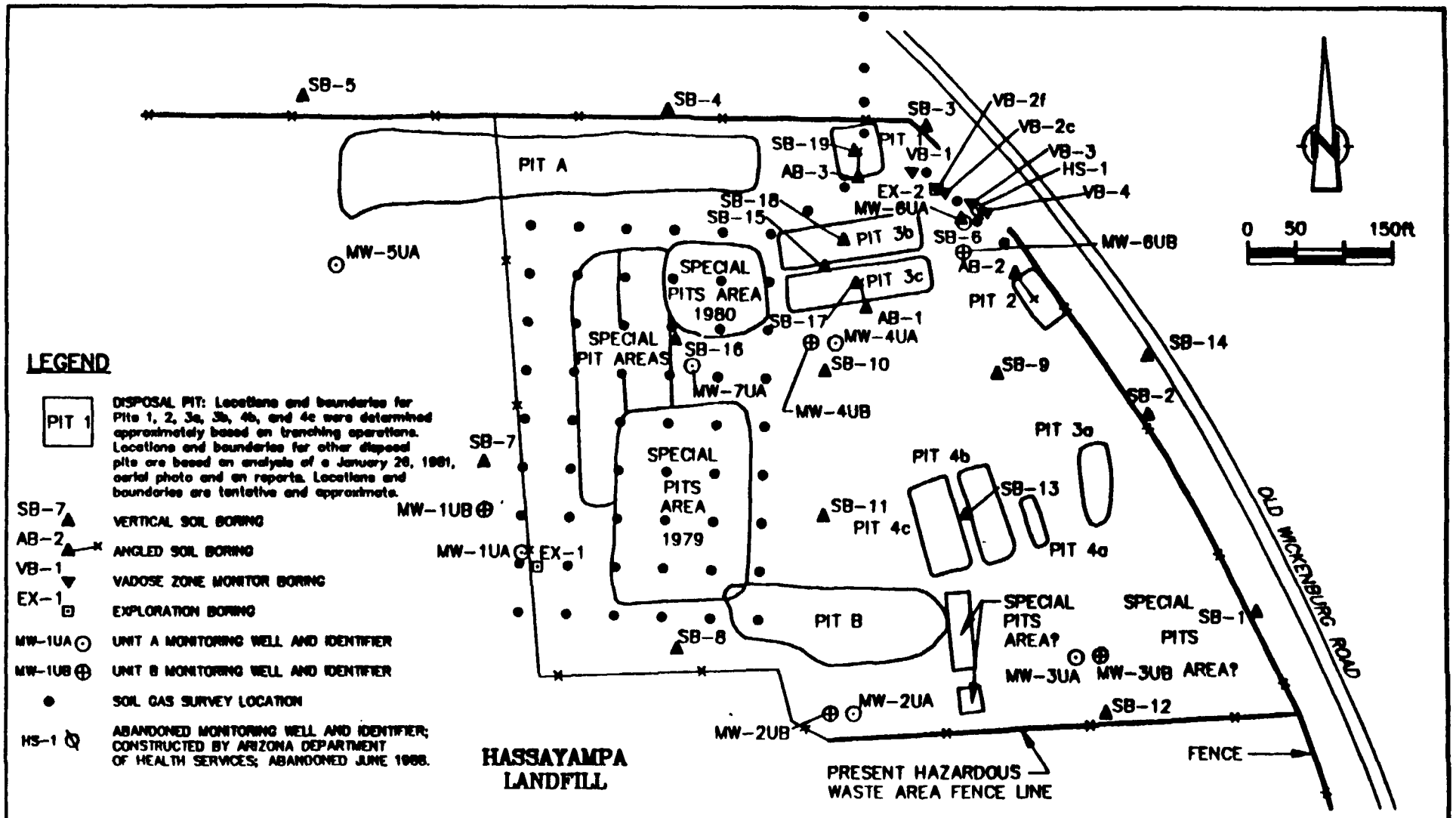


FIGURE 5

REFERENCE:
INFORMATION FOR BASE MAP
FROM ERROL L. MONTGOMERY
AND ASSOCIATES INC.

CRA

RI MONITORING LOCATIONS
HASSAYAMPA LANDFILL
Maricopa County, Arizona

2141(10)-MAY 4/92-REV.2 (P-18)

TABLE 1

SUMMARY OF WASTES APPROVED FOR DISPOSAL
HASSAYAMPA FEASIBILITY STUDY

Pit(s)	*Waste Type Designated*	*Quantity Reported in the Liquid Waste Evaluation Report (CRA AND M&A, 1991)*		*Quantity Reported by Arizona Department of Health Services (1985)*	
		Liquid Waste (gallons)	*Solid Waste (tons)*	*Liquid Waste (gallons)*	*Solid Waste (tons)*
Special Pit	Incompatible Hazardous Waste	174,183	2,123	134,578	308.64
Pit 1	Organics & Oils	373,755	5.0	360,805	0
Pit 2	Acids & Acid Sludges	110,930	0.1	125,597	0.1
Pits 3a, b and c	Alkaline & Metallic Sludges	1,368,991	7.3	1,362,636	24.5
Pits 4a, b and c	Pesticides & Akaline Sludges	1,407,467	1,600	1,295,022.2	3,816.46
	Total	3,435,326	3,735.4	3,278,638.2	4,149.7

Notes:

The waste amounts are determined from an analysis of ADHS approved waste manifests.

The difference between these estimates is explained in the Liquid Waste Evaluation Report (M&A and CRA, 1991). These differences are attributed to the different solid waste volume reported by ADHS. This solid waste difference, if converted to liquid waste, would reduce the difference in liquid volumes to three percent.

not recorded under the manifest system.

2. SITE DISCOVERY

In 1981, under the Resource Conservation and Recovery Act (RCRA) Open Dump Inventory Program, ADHS installed three groundwater monitoring wells at the Hassayampa Landfill. Groundwater samples collected from one of these wells was found to be contaminated with volatile organic compounds (VOCs). Also in 1981, Ecology and Environment prepared a site inspection report for the U.S. Environmental Protection Agency (EPA). In 1984, ADHS conducted site inspections of the landfill. The Site was added to EPA National Priorities List in July 1987.

3. SITE INVESTIGATIONS

The major preliminary investigation reports prepared for the Site are summarized below:

- Hydrogeologic Conditions and Waste Disposal at the Hassayampa, Casa Grande, and Somerton Landfills, Arizona (Schmidt and Scott, 1977);
- The Hassayampa Landfill Hazardous Waste Disposal Site: Disposal Analysis (April 20, 1979 - October 28, 1980) (ADHS, 1980);
- Site Inspection Report on Hassayampa Landfill, Hassayampa, Arizona (Ecology and Environment, 1981);
- Geotechnical Evaluation of the Influence of Hassayampa Landfill Hazardous Wastes on the PVNGS Conveyance Pipeline (Ertec Western, 1982);
- Open Dump Inventory of Hassayampa Landfill, Groundwater Criterion (ADHS, 1982);
- Hassayampa Landfill Site Inspection Report (ADHS, 1985);
- Results of Preliminary Hydrogeological Investigations, Hassayampa Landfill, Maricopa County, Arizona (Montgomery and Associates, 1987).

The Remedial Investigation for the Site was conducted by the PRPs, with oversight provided by EPA and the Arizona Department of Environmental Quality (ADEQ). The Remedial Investigation was initiated in 1988, and the Remedial Investigation report was approved by EPA on April 4, 1991. A Risk Assessment report was completed by EPA on September 12, 1991. The Feasibility Study report, which was completed by the PRPs, was approved by EPA on May 20, 1992.

4. ENFORCEMENT ACTIVITIES

Significant enforcement activities conducted at the Site are summarized in Table 2.

C. HIGHLIGHTS OF COMMUNITY PARTICIPATION

As described below, EPA has satisfied the public participation requirements of CERCLA Section 113(k)(2)(B) and 117. EPA currently maintains Hassayampa Landfill Site information repositories at the Buckeye Library in Buckeye, Arizona and at the EPA Region 9 office in San Francisco. The EPA Region 9 office and the Buckeye Library maintain copies of the entire Administrative Record File. EPA also maintains a computerized Hassayampa Landfill Site mailing list, currently with over 500 addresses. Furthermore, EPA conducted a public meeting and accepted comments on the Proposed Plan and RI/FS. EPA has prepared a Responsiveness Summary (Appendix B) which summarizes EPA's responses to public comments received on the RI/FS and Proposed Plan.

A chronological list of community relations activities conducted by EPA for the Hassayampa Landfill Site is provided in Table 3.

D. SCOPE AND ROLE OF THIS DECISION DOCUMENT WITHIN THE SITE STRATEGY

This ROD selects remedial measures for vadose zone contamination (including soil and soil vapor above the water table) and groundwater contamination at the Hassayampa Landfill Site. The remedial measures selected under this ROD constitute a final remedy for the Site.

Sufficient information currently exists to select a remedy for the Site. However, additional investigation will be conducted during the remedial design phase in order to define the extent of groundwater and soil vapor contamination. This additional investigation is not expected to affect the remedy selected for the Site. As necessary, the remedial design will be modified to reflect the additional data collected.

E. SUMMARY OF SITE CHARACTERISTICS

1. CONTAMINANTS OF CONCERN

Waste and Soil Contamination
Site-related contaminants have been detected in soil, soil vapor, groundwater, and air at the Site.

Soil borings drilled through the disposal pits indicate that the base of these pits (which have since been filled) range in depth from 6 to 20 feet below land surface. Consolidated, moist,

TABLE 2 ENFORCEMENT ACTIVITIES - HASSAYAMPA LANDFILL SITE	
DATE	**ACTIVITY**
1/87	EPA completes Potentially Responsible Party (PRP) Search
2/2/87	General Notice/Information Request letters sent to 8 PRPs
4/17/87	General Notice/Information Request letters sent to 78 PRPs
5/7/87	General Notice/Information Request letters sent to 20 PRPs
6/24/87	Special Notice letters sent to all previously identified PRPs
1/11/88	Remedial Investigation/Feasibility (RI/FS) Consent Order signed by EPA and PRPs
11/19/91	General Notice letter sent to one previously unidentified PRP

TABLE 3 COMMUNITY RELATIONS ACTIVITIES HASSAYAMPA LANDFILL SITE	
1987	Community Relations Plan for the site was completed
1/92	EPA issued a Fact Sheet summarizing results of the Remedial Investigation and Risk Assessment and outlining future site activities.
5/29/92	The Administrative Record for the Site was sent to the Buckeye Library.
6/1/92	A public notice was published in the Buckeye Valley News announcing the availability of the Proposed Planand the Administrative Record and announcing the dates of the public comment period and public meeting.
6/28/92	EPA issued the Proposed Plan Fact Sheet which explained the results of the RI/FS, described EPA's preferred plan for cleaning up the Site, and announced the dates of the public comment period and public meeting.
6/1/92-6/30/92	Public comment period for the RI/FS and Proposed Plan
6/11/92	EPA conducted a public meeting during which the Proposed Plan was presented and comments were accepted.

colored material encountered within the pits is referred to herein as waste material. Waste samples were collected from Pits 1, 2, 3a, 3c, 4b, and 4c. Soil samples were also collected from beneath Pits 1, 2, 3b, 3c, 4b, 4c. No waste or soil samples were collected from the Special Pits area due to the scattered nature of these pits. Instead soil vapor sampling was performed in the Special Pits area. Vadose zone monitoring borings were also installed at several locations and soil vapor samples were obtained. Figure 5 shows the location of soil borings, vadose zone monitoring borings, and soil vapor samples taken at the Site.

Volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) have been detected in waste and soil within the hazardous waste area. The concentrations of contaminants in waste and soil were compared with Health-Based Guidelines Levels (HBGLs) for surface soil developed by ADHS. The HBGLs are derived from calculations based on ingestion of soil. The HBGLs have not been promulgated. The only pit which contains waste contaminants at concentrations in excess of their HBGLs is Pit 1, which contains tetrachloroethane and trichloroethene at levels in excess of their respective HBGLs (Table 4). Similarly, the only pit which is underlain by soil contaminants at concentrations in excess of their HBGLs is Pit 1, which has 1,1-dichloroethene, dichloromethane, 1,2-dichloropropane, tetrachloroethene, 1,1,1-trichloroethane, and trichloroethene present at levels in excess of their HBGLs (Table 4). It should be noted that the highest level of soil contamination was detected in the deepest sample taken beneath Pit 1(about 60 feet). This sample was taken immediately above the basaltic lava-flow unit.

Waste and soil contaminant concentrations were also compared to Toxicity Characteristic Leaching Procedure (TCLP) levels and Extraction Procedure Toxicity (EP Tox) levels. The TCLP test was designed to determine the mobility of organic and inorganic analytes, and is one of the criteria used to determine whether a material is a hazardous waste. The EP Tox test preceded the TCLP test and has since been replaced by the TCLP test. The TCLP levels for organics were exceeded only by waste from Pit 1, where levels of 1,1-dichloroethene, trichloroethene, and tetrachloroethene exceeded the TCLP levels. All inorganic waste and soil concentrations were below the TCLP and EP Tox levels with the exception of two compounds. Chromium was detected in waste from Pit 2 at a concentration of 9.9 mg/l (compared to EP Tox level of 5 mg/l) and lead was detected in waste from Pit 3c at a concentration of 11.5 mg/l (compared to EP Tox level of 5 mg/l).

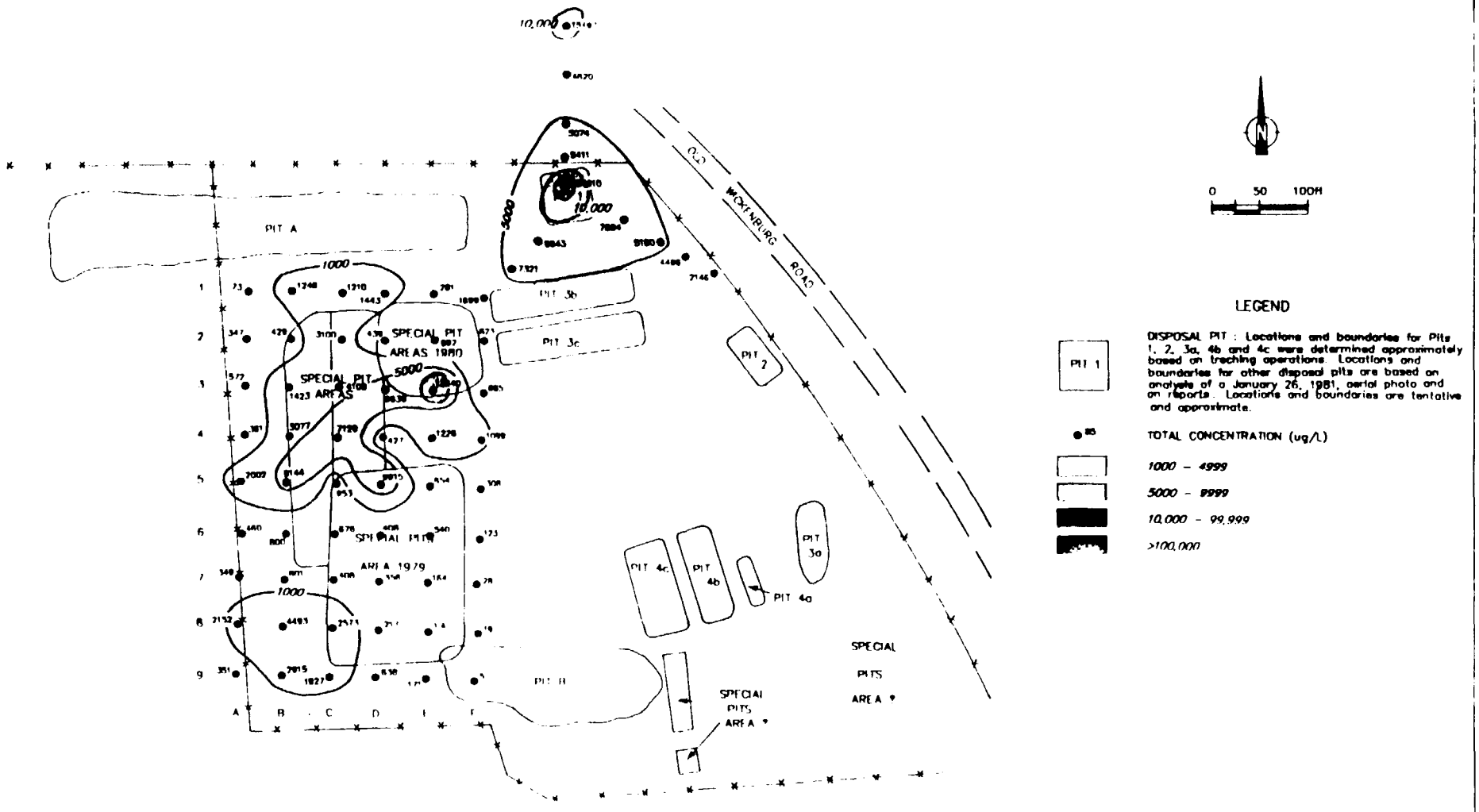
Soil Vapor Contamination

Based on the results of soil vapor surveys, several areas of soil vapor contamination have been identified (Figure 6). The soil

TABLE 4

Comparison of Waste and Soil Concentrations for Pit 1 to Health-Based Guidance Levels

CHEMICAL	PIT 1-MAXIMUM WASTE CONCENTRATION (PPM)	PIT 1-MAXIMUM SOIL CONCENTRATION (PPM)	HEALTH-BASED GUIDANCE LEVEL (PPM)
benzene	ND	1	--
o,p-dichlorobenzene	97	22	1,500
1,1-dichloroethane	ND	47	--
1,1-dichloroethene	30	1630	140
dichloromethane	16	990	94
1,2-dichloropropane	ND	207	12
dimethylbenzenes (total xylenes)	77	350	200,000
acetone	ND	2540	14,000
ethylbenzene	ND	57	14,000
toluene	25	510	20,000
methyl ethyl ketone	ND	405	3,400
tetrachloroethene	541	600	14
1,1,1-trichloroethane	914	23,000	4,000
1,1,2-trichloroethane	13	20	60
trichloroethene	107	590	64
trichlorotrifluoroethane	20	12,000	4,200,000



BASE MAP SOURCE : ERROL L. MONTGOMERY AND ASSOCIATES

FIGURE 6

TOTAL SOIL GAS CONCENTRATIONS
HASSAYAMPA LANDFILL
Maricopa County, Arizona

CRA

2141(10) JAN 27/92 - REV 1

vapor contaminants consist of volatile organic compounds (VOCs) including 1,1-dichlorethene, tetrachlorethene, 1,1,1-trichloroethane, trichloroethene, and trichlorotrifluoroethane. The area in the vicinity of Pit 1 contains the highest levels of soil vapor contamination. Soil vapor contamination also exists in an area north of Pit 1, extending beyond the boundaries of the HWA. Investigation of the extent of soil vapor contamination north of Pit 1 is ongoing and will continue during the remedial design phase. Elevated levels of soil vapor contamination have also been identified in the central and southwest portions of the Special Pits area.

Groundwater

As mentioned previously, two water-bearing units beneath the Site were identified and investigated. The direction of groundwater flow in both units is generally to the south, although local variations in the flow direction may occur. Water level contours and potentiometric contours for Units A and B are presented in Figures 3 and 4), while hydraulic parameters for both units are identified below.

UNIT	GRADIENT	TRANSMISSIVITY gpd/ft	CONDUCTIVITY (gpd/ft^2)
Unit A	0.005	2,000	100
Unit B	0.008	5,000	140

Analytical results for routine constituents indicate that the chemical quality of groundwater in Unit A is consistent with chemical quality of groundwater in shallow aquifers in the landfill area, and that chemical quality of groundwater in Unit B is generally better than that of Unit A.

Volatile organic compounds were detected and confirmed in groundwater samples obtained from Unit A monitor wells MW-1UA, MW-4UA, MW-5UA, MW-6UA, MW-7UA, and from abandoned ADHS well HS-1 (see Figure 3 for well locations). The compounds detected in groundwater from Unit A are presented in Table A-1. Eight of these chemicals have been detected at levels in excess of the selected cleanup standards (see Section I - The Selected Remedy for a discussion of cleanup standards). The approximate target zone for groundwater remedial action is presented in Figure 7. It must be stressed that this target zone does not correspond to a groundwater plume, but merely represents a contiguous area within which are located the monitoring wells that have yielded contaminated groundwater from Unit A. The boundaries of the contaminant plume will be further defined during the remedial design phase. To date, no significant contamination has been detected in groundwater from Unit B.

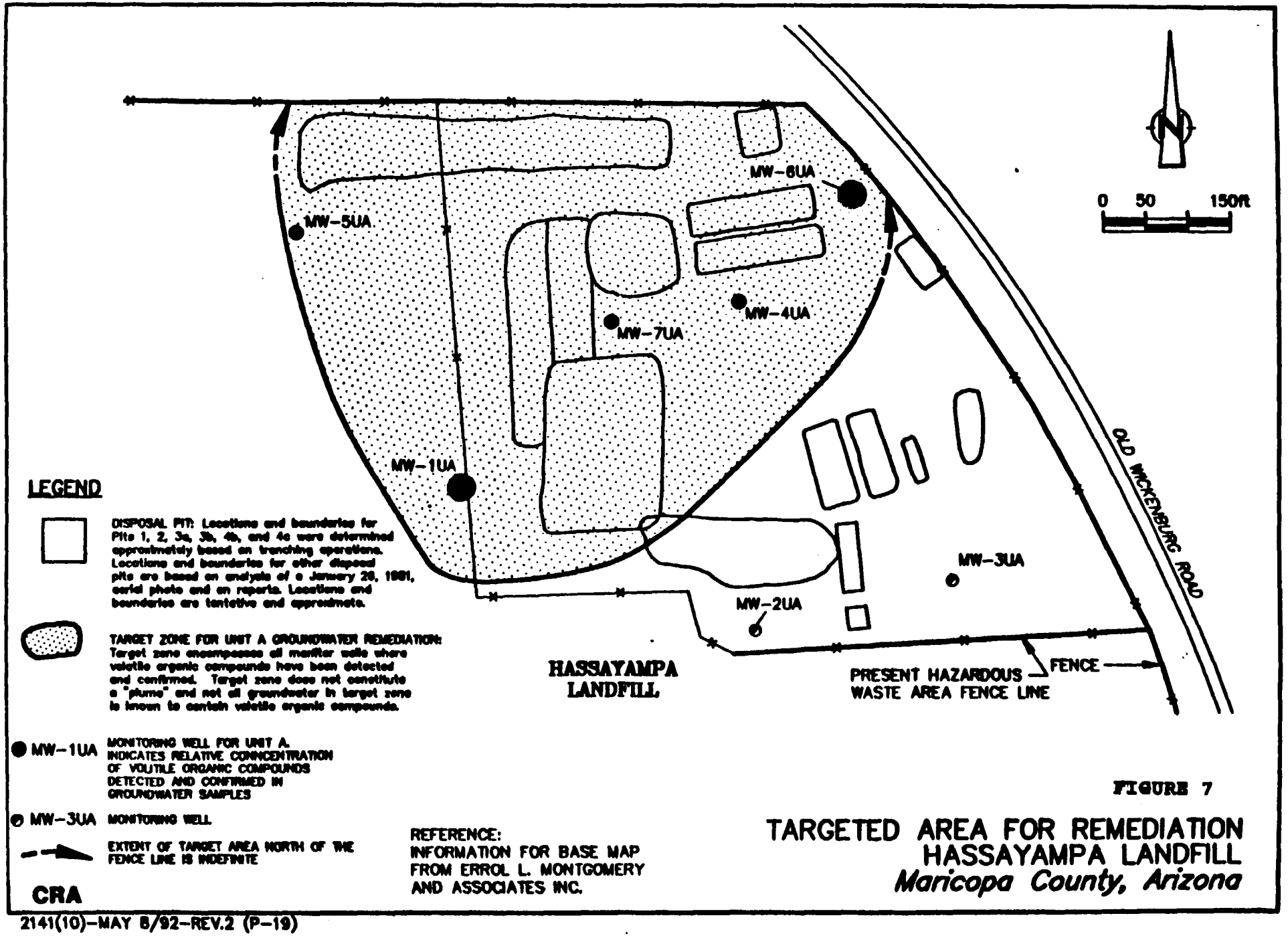


FIGURE 7

TARGETED AREA FOR REMEDIATION HASSAYAMPA LANDFILL

Maricopa County, Arizona

2141(10)-MAY 8/92-REV.2 (P-19)

Air
Air sampling using Tenax tubes was conducted to determine the impact of Site conditions on air quality. The results of this sampling event are presented in Table 5. Generally, only relatively low levels of VOCs were detected in the air samples. Exposure by workers to VOCs in air is regulated under the Permissible Exposure Levels (PELs) established by the Occupational Safety and Health Administration (OSHA). The levels of VOCs detected in air at the Site are well below the PELs. Caution should be used in interpreting the sampling results as being representative of annual average conditions, because these results may vary with different meteorological conditions.

Soil cover in the HWA consists of a reddish-brown to brown silty sand which ranges from two to eight feet in thickness. The soil cover appears to effectively retard the release of gas from buried waste materials in the pits.

Surface Sediment
Surface sediment samples were collected from drainage channels in the vicinity of the Site. Low levels of pesticides were detected in several samples; however, pesticides were also detected in a background sample at similar concentrations suggesting that the Site is not the source of this contamination. The presence of these pesticides may be the residual effect of past agricultural activities.

F. SUMMARY OF SITE RISKS

1. HUMAN HEALTH RISKS

The human health assessment consists of several steps including identification of Contaminants of Potential Concern (COPCs), exposure assessment, toxicity assessment, and risk characterization.

a. Chemicals of Potential Concern

For the most part, all chemicals found to be present at the Site during the RI were identified as COPCs in the Risk Assessment report. However, the list of COPCs was narrowed down based on the following criteria:

- Common laboratory contaminants were removed from further evaluation if the Site sample concentrations were less than ten times the maximum amount detected in any blank. For all other chemicals, if the Site contaminant concentrations were less than five times the maximum amount detected in any blank, the chemicals were removed from further evaluation;

- Chemicals that were judged to be present at background

TABLE 5

SUMMARY OF MONITORING DATA FOR AIR COPCs (concentrations in ug/m3)

STATION	Acetone	Benzene (a)	Carbon Tetrachl.	Chloro-methane	DBCM	1,1-DCA	1,1-DCE	1,2-DCP	Ethyl Benzene	Methylene Chloride	PCE	Toluene	1,1,1-TCA	TCE	TCFM	Xylenes (m,p-)	Xylenes (o-)
A2		3.20 J	0.60 J	0.49 J	0.67	0.80	2.38 J			91.00 J	0.62	19.00	13.00 J	0.57	3.60	0.86	
B2		3.70 J	0.70 J				0.85			71.00 J		15.00		1.10	2.05 J	0.90	
C2		1.20								12.00							
E2	34.00 J	4.50 J	0.80 J						0.71	141.00 J		95.00			6.10 J	1.90	0.57
F2		4.70 J	0.71 J	0.61 J						91.00 J		26.00			1.90 J	0.91	
G2		5.10 J	0.77 J						0.56	112.00 J		72.00	4.49 J		2.51 J	1.70	0.56
H2		4.40 J	0.61 J	0.85 J						96.00 J		0.80					
I2		2.89 J	0.74 J	0.74 J			1.10		0.58	116.00 J		30.00			1.42 J		
J2			1.30 J		1.60	1.40	4.90 J	0.47		204.00 J	1.50	20.00	46.50 J	1.60	1.10 J	0.57	
MEAN (b)	34.00	3.71	0.78	0.67	1.14	1.10	2.31	0.47	0.62	103.78	1.06	34.73	21.33	1.09	2.67	1.14	0.57
MAXIMUM	34.00	5.10	1.30	0.85	1.60	1.40	4.90	0.47	0.71	204.00	1.50	95.00	46.50	1.60	6.10	1.90	0.57
STD (c)	0.00	1.19	0.21	0.14	0.47	0.30	1.61	0.00	0.07	48.91	0.44	29.84	18.13	0.42	1.59	0.48	0.00
SAMPLE SI	1	8	8	4	2	2	4	1	3	9	2	8	3	3	7	6	2
95% UCL (d)	34.00	4.40	0.90	0.78	1.68	1.45	3.63	0.47	0.68	130.60	1.57	52.08	38.55	1.49	3.66	1.46	0.57

Source: Montgomery, 1991 (Table 1-8)

NOTES: [ ] = Statistical summary

DBCM: Dibromochloromethane; 1,1-DCA: 1,1-Dichloroethane; 1,1-DCE: 1,1-Dichloroethene; 1,2-DCP: 1,2-Dichloropropane

PCE: Tetrachloroethene; 1,1,1-TCA: 1,1,1-Trichloroethane; TCE: Trichloroethene; TCFM: Trichlorofluoromethane

(a) J, as a validation data qualifier, indicates an estimated quantity.

(b) Blank spaces indicate that the compound was not detected or its presence could be attributed to laboratory contamination.

(b) Arithmetic mean or average. Positively detected values were averaged only. One-half of the sample quantitation limit (SQL) for non-detects was not assumed.

(c) Sample standard deviation.

(d) One-sided 95% upper confidence limit = (average) + (Z of 0.95 or 1.645 x [(standard deviation) / (sample size)^1/2]), where "^" means "to the power of."

concentrations were eliminated from further evaluation; and

- With the exception of trichlorofluoroethane (Freon 113), tentatively identified compounds (TICs) were not considered COPCs. Freon 113 was retained due to the large volumes (approximately 10,384 gallons) thought to have been disposed at the Site.

COPCs were identified by environmental medium - subsurface soil (including waste material), groundwater, and air. Onsite surface soil is not considered a medium of concern because the HWA has been covered with clean soil. No COPCs were identified in surface sediments in the vicinity of the landfill.

The specific COPCs identified for subsurface soil, groundwater, and air are presented in Table 6. Vinyl chloride was identified as a COPC even though it was not detected in groundwater at the Site. This decision was based on the fact that vinyl chloride is a potent carcinogen, and is a potential breakdown product of VOCs that were identified at the Site.

b. Exposure Assessment

The objective of exposure assessment is to estimate the types and magnitudes of exposure to COPCs associated with the Site. As part of this process, pathways of current and future exposure are identified. There are several pathways by which individuals could be exposed to contaminants disposed in the HWA. These pathways were evaluated under current land-use and future land-use scenarios.

Under the current land-use scenario, the nearest offsite residence is about 1,000 meters south of the HWA. If contaminated groundwater is allowed to continue to migrate, residents at this location could be exposed to site-related contaminants through the use of domestic wells. Since the prevailing wind direction is from the northeast about 50 percent of the time, the residents at this location could also be exposed to site-related contaminants via inhalation. Exposure of workers to VOCs at the landfill was not evaluated by the Risk Assessment. However, the concentrations of VOCs to which landfill workers are expected to be exposed are well below Permissible Exposure Levels (PELs) established by the Occupational Safety and Health Administration (OSHA). The following exposure routes were evaluated under the current-use scenario:

- Ingestion of VOCs in contaminated groundwater migrating offsite;
- Inhalation of VOCs in contaminated groundwater migrating offsite; and
- Inhalation of VOCs released from the Site to air.

TABLE 6
CHEMICALS OF POTENTIAL CONCERN BY MEDIUM

CHEMICAL OF POTENTIAL CONCERN	MEDIUM OF POTENTIAL CONCERN		
	SOIL	GROUNDWATER	AIR
acetone			X
benzene			X
carbon tetrachloride			X
chloromethane			X
chromium	X		
copper	X		
dibromochloromethane			X
1,2-dichlorobenzene	X		
1,4-dichlorobenzene	X		
1,1-dichloroethane		X	X
1,1-dichlorothene	X	X	X
1,2-dichloroethene		X	
1,2-dichloropropane		X	X
ethylbenezene			X
lead	X		
methylene chloride			X
tetrachloroethene	X	X	X
toluene	X	X	X
1,1,1-trichloroethane	X	X	X
trichloroethene		X	X
Freon 11		X	X
Freon 113	X	X	
xylene	X		X
vinyl chloride		X	

Under the future-use scenario, exposed populations are assumed to be present onsite and domestic wells are assumed to be installed onsite. Potentially exposed populations evaluated included both residential and industrial users. Although residential and industrial use of the landfill seems unlikely in the near future, it is not unrealistic to assume that such use could occur in the more distant future. The following exposure routes were evaluated under the future use scenario for both onsite residential and onsite industrial populations:

- Ingestion of contaminated soil;
- Ingestion of VOCs in groundwater;
- Inhalation of VOCs in groundwater, particularly via showering (residential only); and
- Inhalation of VOCs released from the Site to air.

Exposure intake parameter values were based on standard assumptions and best professional judgement. It should be noted that under all scenarios, it was assumed that the exposed individuals were adults. The only scenario under which children would demonstrate significantly different behavioral patterns which would affect their exposure was onsite residential (ingestion of soil). However, as explained later, this exposure pathway was not evaluated quantitatively.

c. Toxicity Assessment

Both carcinogenic and non-carcinogenic chemicals have been identified in soil and groundwater at the Hassayampa Landfill Site. Reference doses (RfDs) have been developed by EPA for indicating the potential for adverse health effects from exposure to chemicals exhibiting non-carcinogenic effects. The RfD is an estimate, with an uncertainty of approximately an order of magnitude, of a lifetime daily exposure for the entire population (including sensitive individuals) that is expected to be without appreciable risk of deleterious effects. Estimated intake of chemicals from environmental media (e.g. the amount of a chemical ingested from contaminated drinking water) can be compared to RfDs. RfDs are derived from human epidemiological studies or animal studies to which uncertainty factors have been applied (e.g. to account for the use of animal data to predict effects on humans). These uncertainty factors help ensure that the RfDs will not underestimate the potential for adverse non-carcinogenic effects to occur.

For chemicals classified by EPA as proven or probable human carcinogens, risk was evaluated using cancer potency factors (CPFs) which have been developed by EPA's Carcinogenic Assessment Group for estimating excess lifetime cancer risks associated with exposure to potentially carcinogenic chemicals. CPFs were multiplied by the estimated intake of the potential carcinogen to provide an upper-bound estimate of the excess lifetime cancer

risk associated with exposure at that intake level. The term upper-bound reflects the conservative estimate of the risks calculated from the CPF. Use of this approach makes underestimation of the actual cancer risks highly unlikely.

EPA's Region 9 office has generated guidance for calculating toxicity values for chemicals considered to be "possible human carcinogens," such as 1,1-dichlorothene (1,1-DCE). EPA Region 9 has proposed developing a modified RfD for 1,1-DCE rather than using its CPF. The modified RfD is calculated by dividing its oral RfD by a safety factor of 10.

d. Risk Characterization

The risk characterization step of the risk assessment process combines the information from the previous steps to determine if an excess health risk is present at the Site. Excess lifetime cancer risks are determined by multiplying the intake levels by the CPFs. These risks are probabilities that are generally expressed in scientific notation (e.g. 1×10^{-6}). An excess lifetime cancer risk of 1×10^{-6} indicates that, as a plausible upper-bound, an individual has a one in one million chance of developing cancer as a result of a site exposure to a carcinogen over a seventy year lifetime under the specific exposure conditions at a site. As is stated in the National Contingency Plan (NCP)(40 C.F.R. Section 300.430 (e)), "For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper-bound lifetime cancer risk to an individual of between 10^{-4} and 10^{-6}."

Potential concern for the non-carcinogenic effect of a single contaminant in a single medium is expressed as a hazard quotient (HQ), which is the ratio of the estimated intake derived from the contaminant concentrations in a given medium to the contaminant's reference dose. By adding the HQs for all contaminants within a medium or across all media to which a given population is exposed, the hazard index (HI) can be generated. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. An HI in excess of one is generally regarded by EPA as representing an unacceptable lifetime, non-carcinogenic human health risk.

As discussed previously, 1,1-DCE is classified as a "possible human carcinogen," reflecting the fact that there is only limited evidence available suggesting that this substance is a human carcinogen. Thus, in accordance with EPA Region 9 guidance, carcinogenic risk for 1,1-DCE was evaluated differently than for other carcinogens. The evaluation of 1,1-DCE's carcinogenicity is analogous to the calculation for the non-carcinogenic contaminants described above. A cancer hazard index (CHI) in

excess of one is regarded by EPA Region 9 as representing an unacceptable lifetime human health risk.

The results of the risk characterization step are summarized in Table 7. This table presents both typical and reasonable maximum exposure (RME) risks calculated for the current offsite residential, future onsite residential, and future onsite commercial or industrial scenarios. The typical (or average) exposure risk is based on exposure to mean contaminant levels and mean values for contact and intake variables, including exposure frequency and duration. The RME risk is based on exposure to a concentration defined as the 95 percent upper confidence limit of the arithmetic mean concentration and 90 to 95 percent percentile values for contact and intake variables.

For a current offsite receptor located at a distance of a thousand meters downwind and downgradient from the site, the risk associated with VOCs in air does not appear significant (HI and CHI are less than one and carcinogenic risk is less than 10^{-6}). For the groundwater pathways, the carcinogenic and non-carcinogenic risk levels are below the benchmarks of 10^{-6} and one, suggesting there is no significant health threat. However, the CHI for 1,1-DCE is nearly four times the acceptable level of one (under both average and RME conditions), suggesting that continued migration of contaminated groundwater could result in unacceptable health risks.*

Under the future onsite residential scenario, the risk associated with ingestion and contact with onsite waste and soil was not evaluated quantitatively and was not summed with the other pathways evaluated, since only limited data from the pits was available at the time of writing the Risk Assessment. However, due to the presence of chromium, lead, and copper and high levels of VOCs and SVOCs in several of the pits, it was assumed that exposure to waste and soil would result in unacceptable health risks for onsite residents (termed significant risk in Table 7). Risk associated with inhalation of ambient air exceeded the acceptable benchmarks of 10^{-6} (average and RME conditions) and 1 (RME conditions only) for carcinogenic risk and CHI, suggesting unacceptable health risks for onsite residents. Finally, the CHI associated with ingestion of groundwater and inhalation of VOCs in groundwater also exceeded 1 (average and RME conditions), again suggesting unacceptable health risks for onsite residents.* Since the total risk calculated for the future onsite residential scenario does not include exposure to waste and soil within the

* If carcinogenic risk for 1,1-DCE had been evaluated using the traditional approach, the RME risk due to ingestion of groundwater and inhalation of VOCs in groundwater under the current offsite residential scenario would have been $1X10^{-3}$ excess cancers. Similarly, under the future onsite residential scenario, the RME risk would have been $2X10^{-3}$ excess cancers. Thus, carcinogenic risk under both of these scenarios exceeds the acceptable risk range of 10^{-4} to 10^{-6} excess cancers, suggesting that continued migration of contaminated groundwater could result in unacceptable health risks.

TABLE 7

SUMMARY OF ESTIMATED RISKS - CURRENT AND FUTURE LAND USES

Exposure Scenario	Average Exposure			Reasonable Maximum Exposure		
I. CURRENT OFF-SITE RESIDENTIAL	Excess Cancer Risk	CHI for 1,1-DCE	Noncarcinogenic HI	Excess Cancer Risk	CHI for 1,1-DCE	Noncarcinogenic HI
"Actual"[a]						
a. Inhalation of Ambient Air	8E-08	2.9E-03	2.4E-03	3E-07	4.5E-03	3.0E-03
Total	8E-08	2.9E-03	2.4E-03	3E-07	4.5E-03	3.0E-03
Potential						
a. Ingestion of Ground Water	1E-07	1.9	2.0E-01	4E-07	1.9	2.0E-01
b. Inhalation of VOCs in Ground Water	7E-08	1.9	1.9E-01	2E-07	1.9	1.9E-01
c. Inhalation of Ambient Air	8E-08	2.9E-03	2.4E-03	3E-07	4.5E-03	3.0E-03
Total	2E-07	3.8	3.9E-01	9E-07	3.8	3.9E-01
II. FUTURE ON-SITE RESIDENTIAL						
Potential						
a. Ingestion of Ground Water	2E-07	1.8	1.9E-01	7E-07	3.2	3.2E-01
b. Inhalation of VOCs in Ground Water	1E-07	1.8	1.9E-01	4E-07	3.2	3.2E-01
c. Inhalation of Ambient Air	2E-05	7.0E-01	5.9E-01	8E-05	1.1	7.3E-01
d. Exposure to Wastes Below Soil Cover	Significant Risk			Significant Risk		
Total	2E-05[b]	4.3[b]	9.7E-01[b]	8E-05[b]	7.5[b]	1.3[b]
III. FUTURE ON-SITE COMMERCIAL/INDUSTRIAL						
Potential						
a. Ingestion of Ground Water	7E-08	6.5E-01	6.7E-02	2E-07	1.1	1.2E-01
b. Inhalation of Ambient Air	1E-05	5.0E-01	4.2E-01	5E-05	7.9E-01	5.2E-01
c. Exposure to Wastes Below Soil Cover	Significant Risk			Significant Risk		
Total	1E-05[b]	1.2[b]	5E-01[b]	5E-05[b]	1.9[b]	6.4E-01[b]

Notes:

[a] "Actual" refers to currently complete exposure pathways. Risk numbers are estimates.

[b] Risk values presented do not account for exposure to wastes below the soil cover. Risks associated with exposure to these wastes are deemed unacceptable since the soil meets the criteria of hazardous waste.

pits (for reasons described above), the total risk values presented in Table 7 for this scenario represent minimum valuesand are expected to be significantly higher. Still, the total 1risk exceeded the 10^{-6} benchmark (average and RME), CHI of 1 (average and RME), and HI of 1 (RME).

Similarly, under the future onsite commercial or industrial scenario the risk associated with exposure to waste and soil was not evaluated quantitatively, but was assumed to be significant and indicative of unacceptable health risks for future workers in the HWA. The carcinogenic risk associated with inhalation of ambient air (average and RME) also exceeded the benchmark of 10^{-6}, indicating unacceptable health risks for future workers in the HWA. Again, as described above, the total risk calculated for the future onsite commercial/industrial scenario does not include exposure to waste and soil within the pits, and the total risk values presented in Table 7 for this scenario represent a minimum value and are expected to be significantly higher. Still, the total risk exceeded the 10^{-6} benchmark (average and RME) and CHI of 1 (average and RME).

Due to the threat of exposure to groundwater contaminants as a result of future offsite migration of contaminated groundwater, and the threat of exposure to contaminated waste and soil under the residential and commercial/industrial scenarios; actual or threatened releases of hazardous substances from this Site may present an imminent and substantial endangerment to public health or welfare.

2. ENVIRONMENTAL EVALUATION

The ephemeral Hassayampa river (which drains to the south) and associated riparian habitat, is located about 3/4 mile east of the landfill. Although the Hassayampa Landfill is located within the drainage area of this river, the landfill is located outside of the projected 100-year floodplain of the river.

The Arizona Game and Fish Department (AGFD) identified the Gambel's Quail, Mourning Dove, and Jack Rabbit as the most likely game species in the area and noted that interspersed stands of larger trees may be used by migratory birds. The U.S. Fish and Wildlife Service (USFWS) indicated that no listed or proposed threatened or endangered species or biological resources would likely be affected by contamination at the Site. USFWS did indicate that a candidate category 1 species, the Lowland Leopard Frog, may be found in the vicinity of the Site.

Under current Site conditions, there is no information to suggest that ecological receptors may presently be exposed to Site contamination. The HWA is covered by clean soil and the perimeter is bermed to prevent erosion and offsite drainage. Although contaminated groundwater appears to be migrating south,

the nearest perennial surface water body where groundwater might discharge is the Gila River, which is more than 2 miles from the Site.

With the understanding that the HWA is covered with soil, AGFD concludes that the likelihood of exposure to wildlife seems low. AGFD did identify wetland and riparian habitat and associated species along the Gila River that might be affected if groundwater contamination were to migrate that distance. Groundwater modeling performed in the Risk Assessment indicates that this scenario is unlikely. There are no wetlands or riparian habitat within the boundaries of the Site.

G. DESCRIPTION OF ALTERNATIVES

EPA initially considered a wide range of technologies and alternatives for remediation of the vadose zone (including soil and soil vapor above the water table) and for remediation of groundwater. The alternatives which survived the screening process and were evaluated in the detailed analysis are described below. For all of the alternatives except for the No Action Alternative, two groundwater options were evaluated. Since these two groundwater options are common to all of the alternatives except No Action, the groundwater options will be discussed first.

The cost of each of the alternatives evaluated is presented in Table 8.

1. GROUNDWATER

EPA evaluated two groundwater options for the Site. These two options were identical with the exception that the treatment systems differed. Both options consisted of groundwater extraction, groundwater treatment, reinjection of the treated water, and continued groundwater monitoring. The two treatment options considered were air stripping and ultra-violet (UV) oxidation.

Under these options, groundwater would be extracted from Unit A using several extraction wells. Calculations performed in the Feasibility Study suggest that four to five extraction wells operating at five gallons per minute would achieve ARARs in Unit A within a maximum of 20 to 30 years. However, the exact number of extraction wells, well locations, and pumping rates would be

TABLE 8
COST OF REMEDIAL ALTERNATIVES

ALTERNATIVE	ESTIMATED COST			
	CAPITAL COST	ANNUAL COST	PRESENT WORTH OF ANNUAL COST*	TOTAL PRESENT WORTH*
Alternative 1 No Action	$0	$0	$0	$0
Alternative 2 Access/Deed Restrictions Cap Groundwater Extraction/ Treatment/Reinjection	Option A $1,531,300 Option B $2,012,300	$347,500 $485,000	$2,213,100 $4,865,100	$3,744,000 $6,877,000
Alternative 3 Access/Deed Restrictions Cap Soil Vapor Extraction/ Treatment Groundwater Extraction/ Treatment/Reinjection/ Monitoring	Option A $3,878,300 Option B 4,359,300	$347,500 $490,500	$2,213,100 $4,865,100	$6,091,400 $9,224,400
Alternative 4 Access/Deed Restrictions Cap Soil Vapor Extraction/ Treatment Removal/Soil Washing Pit 1 Groundwater Extraction/ Treatment/Reinjection/ Monitoring	Option A $4,980,300 Option B 5,461,300	$347,500 $485,500	$2,213,100 $4,865,100	$7,193,000 $10,325,000

Option A refers to a groundwater treatment system using air stripping.
Option B refers to a groundwater treatment system using UV oxidation.
* Present worth costs are estimated based on a 30-year operating period.

determined during remedial design.

The extracted groundwater would be treated through air stripping or UV oxidation. Air stripping involves the transfer of VOCs dissolved in water to a stream of air flowing counter-current to a stream of water over a bed of packing material.

Contaminants which have been transferred to the air stream, can be discharged directly to the atmosphere or treated prior to discharge. Calculations performed in the Feasibility Study suggest that uncontrolled VOC air emissions from the air stripper would be 1.3 lbs/day, which is substantially below the Maricopa County guideline of 3 lbs/day and the EPA guideline of 15 lbs/day. Nevertheless, vapor phase carbon adsorption would be required to treat air emissions from the air stripper if total VOC emissions at the Site exceed the Maricopa County guideline. UV oxidation uses ultraviolet light and an oxidant (typically hydrogen peroxide or ozone) to destroy organic contaminants. Water and a small amount of chloride salts and carbon dioxide are produced as by-products, but there are no substantial air emissions from the process.

The treated groundwater would be reinjected, either onsite or in the immediate vicinity of the Site. The Feasibility Study indicated that one injection well screened in Unit B and located to the west of the hazardous waste area would be the most advantageous scenario. However, the number of injection wells, the location of the injection wells, depth of the injection wells, and injection rates would be determined during remedial design.

Continued groundwater monitoring would be performed to monitor and ensure the effectiveness of the remedy. The number of monitoring wells and frequency of sampling would have to be sufficient to monitor the effectiveness of the remedy. Additional investigation would be performed during remedial design to characterize the extent of groundwater and soil vapor contamination.

2. VADOSE ZONE

The following alternatives were evaluated for remediation of the vadose zone (including soil and soil vapor above the water table).

Alternative 1 - No Action.

Under this alternative no additional action would be taken at the Site following the RI/FS. Continued monitoring would be required at the Site, although the cost estimate for this alternative does not reflect the cost of performing such monitoring. EPA is required to carry a No Action alternative through the final

detailed analyses.

Alternative 2 - Access & Deed Restrictions, Cap, Groundwater Extraction/Treatment/Reinjection/Monitoring.

Under this alternative the perimeter fence would be upgraded and maintained to restrict unauthorized access to the Site. Long-term deed restrictions would also be imposed, thereby restricting future use of the Site. These restrictions would include (1) access limitations (including a requirement that a fence be maintained around the Site) and (2) use limitations restricting future use of the Site and restricting use of groundwater beneath the Site.

This alternative would also include the construction of a cap over the hazardous waste area. The purpose of this cap would be to prevent direct contact with contaminated waste and soil left in place, to reduce infiltration of water, and to reduce the release of VOC vapors to the atmosphere. At a minimum, this cap would have to meet the substantive requirements of a RCRA cap for Interim Status facilities as described in 40 CFR Parts 265.310 and 265.117 and as described in the "EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments" (EPA/530-SW-89-047). The construction details and design requirements of this cap would be determined during remedial design.

As described previously, this alternative would also include groundwater extraction, groundwater treatment, reinjection of treated water, and continued groundwater monitoring to ensure the effectiveness of the remedy.

Alternative 3 - Access & Deed Restrictions, Cap, Soil Vapor Extraction/Treatment, Groundwater Extraction/Treatment/ Reinjection/Monitoring.

This alternative is identical to Alternative 2 with the exception that it also includes soil vapor extraction and treatment of the extracted soil vapors. Soil vapor extraction would involve the installation of extraction vents in order to remove VOCs and SVOCs from the vadose zone. These vents would be installed within waste and soil in areas where waste and soil contamination has been demonstrated to be a threat to groundwater and where soil vapor has been identified as being present in excess of the soil vapor cleanup standards (see Section I - The Selected Remedy for a discussion of soil vapor cleanup standards). A vacuum system would be applied to the vents in order to induce air flow through the soil, causing the VOCs and SVOCs present in the waste and soil to volatilize into the air stream. Water in the air stream would be condensed, separated from the air stream, and transferred to a water treatment system. The contaminated air stream would then flow through an air and vapor treatment system

consisting of either a vapor phase carbon adsorption unit or a catalytic oxidation system (catalytic oxidation is essentially a thermal incinerator which uses a catalyst to promote the oxidation of VOCs). The specific soil vapor treatment system would be selected during remedial design.

Alternative 4 - Access & Deed Restrictions, Cap, Soil Vapor Extraction/Treatment, Excavation/Soil Washing, Groundwater Extraction/Treatment/Reinjection/Monitoring.

This alternative is identical to Alternative 3, except that it also includes excavation of approximately 1,400 cubic yards of waste from Pit 1, soil washing, and replacement of the treated material. Waste that is present at levels in excess of the Arizona Health-Based Guidance Levels for surface soil would be excavated using standard excavation equipment. The excavated waste would then be treated using a soil washing process. Soil washing involves contacting the waste with water to partition the contaminants from the solid phase to the liquid phase. Excavated wastes would be slurried with water to remove contaminants from the wastes and pumped through a filter press to separate the solids from the wastes. The contaminated water would then be collected for treatment, while the decontaminated soils would be backfilled into Pit 1.

H. SUMMARY OF THE COMPARATIVE ANALYSIS OF ALTERNATIVES

Each of the alternatives described in the preceding section was evaluated according to the nine criteria defined below. Each criterion is discussed in detail on the pages that follow this list.

Threshold Criteria

Overall protection of human health and the environment. Addresses whether the alternative can adequately protect human health and the environment, in both the short and long-term, from contaminants present at the Site.

Compliance with ARARs. Addresses whether the alternative will meet all Federal and State environmental laws that are applicable or relevant and appropriate requirements (ARARs) or provide grounds for invoking a waiver of the ARAR.

Primary Balancing Criteria

Long-term effectiveness and permanence. Refers to the long-term effectiveness and permanence afforded by the alternative along with the degree of certainty that the alternative will prove successful.

Reduction of toxicity, mobility, or volume through treatment. Refers to the degree to which the alternative reduces toxicity, mobility, or volume of the Site contaminants through treatment and reduces inherent hazards posed by the Site.

Short-term effectiveness. Refers to the short-term risks posed to the community, the potential impact on workers, and the potential environmental impact during implementation of the alternative.

Implementability. Refers to the ease or difficulty of implementing the alternative by considering technical feasibility, administrative feasibility, and availability of materials and services.

Cost. Includes capital costs, annual operating and maintenance costs (O & M costs), and net present value of O & M costs.

Modifying Criteria

State acceptance. Indicates whether the State concurs with, opposes, or has no comment on the preferred alternative.

Community acceptance. Indicates whether the community agrees with, opposes, or has no comment on the preferred alternative.

COMPARATIVE ANALYSIS

Overall Protection of Human Health and the Environment

Alternative 1 is not protective of human health and the environment since no action is taken to prevent future exposure to contaminated groundwater. In addition, future land use could result in direct exposure to waste material and contaminated soil.

Alternatives 2, 3, and 4 attain similar levels of protection of human health and the environment by preventing exposure to contaminated groundwater through groundwater extraction and treatment. In addition, these alternatives prevent contact with waste material and contaminated soil through the use of a cap and access and deed restrictions.

Alternatives 3 and 4 attain a slightly greater level of protection as compared to Alternative 2, since they use soil vapor extraction to reduce soil vapor contamination to levels that are protective of groundwater quality. This reduces the chances of exposure to the soil vapor contaminants through exposure to groundwater. Similarly, Alternative 4 attains a slightly greater level of protection as compared to Alternative 3, since contaminated waste from Pit 1 would be

excavated and treated. This provides additional protection in the unlikely event that deed and access restrictions and the cap fail to prevent direct contact with the waste material. The two groundwater treatment options considered, air stripping and UV oxidation, attain similar levels of protection of human health and the environment.

Compliance with ARARs

Alternative 1 does not comply with ARARs since it would not meet the groundwater cleanup standards. Alternatives 2, 3, and 4 all meet ARARs. Under these alternatives, it is estimated that groundwater cleanup standards would be met in a maximum of 20-30 years. However, since Alternatives 3 and 4 use soil vapor extraction to prevent vadose zone contaminants from continuing to contaminate groundwater, it is possible that these two alternatives could attain the groundwater cleanup standards more quickly than Alternative 2.

The two groundwater treatment options considered would both meet the groundwater cleanup standards. It is expected that emissions from the air stripper and the soil vapor extraction system would meet Federal and County guidelines. In the event that these guidelines are exceeded, vapor-phase carbon will be required in order to comply with these standards.

ADEQ Health-Based Guidance Levels for surface soil have been identified as TBCs for Alternative 4, which involves excavation and treatment of contaminated waste and soil. Under this alternative, contaminated waste and soil would be excavated and treated to the ADEQ HBGLS. Alternatives 2 and 3 meet the ADEQ HBGLS for surface soil indirectly by preventing exposure to contaminated waste and soil through the use of access and deed restrictions and a cap.

Long-Term Effectiveness and Permanence

Since Alternative 1 does not involve remediation at the Site, it does not provide long-term protection.

Alternatives 2, 3, and 4 provide similar long-term effectiveness with respect to groundwater by extracting and treating contaminated groundwater. However, Alternatives 3 and 4 provide greater long-term effectiveness with respect to groundwater as compared to Alternative 2, because Alternatives 3 and 4 use soil vapor extraction to prevent vadose zone contamination from being a continuing source of groundwater contamination. Both of the groundwater treatment options, air stripping and UV oxidation, are considered permanent remedies.

Alternatives 2, 3, and 4 use a cap and access and deed restrictions to attain long-term effectiveness and permanence

with respect to soil contamination. Through the use of soil vapor extraction, Alternative 3 attains a greater level of long-term effectiveness than Alternative 2. Alternative 4 provides a slightly greater level of long-term effectiveness since it also includes excavation and soil washing. However, since the volume of soil to be excavated and treated is relatively small (1,400 cubic yards), the added long-term effectiveness is limited.

Reduction of Toxicity, Mobility, or Volume Through Treatment

Alternative 1 does not involve any treatment and would not result in a reduction of toxicity, mobility, or volume.

Alternatives 2, 3, and 4 all attain a significant reduction in mobility and volume of groundwater contaminants through the use of groundwater extraction and treatment. Alternatives 2, 3, and 4 would also result in a reduction in mobility of vadose zone contamination through the use of a cap. The cap would limit the amount of infiltration, and would thereby reduce migration of vadose contamination to groundwater. Of the two groundwater treatment options considered, UV oxidation attains a greater reduction of toxicity, mobility and volume as compared to air stripping.

Alternatives 3 and 4 attain a greater reduction in mobility and volume of vadose zone contamination as compared to Alternative 2, since Alternatives 3 and 4 include the use of soil vapor extraction to treat vadose zone contamination. Alternative 4 attains a slightly greater reduction in mobility and volume as compared to Alternative 3, since Alternative 4 includes soil washing of waste material in Pit 1.

Short-Term Effectiveness

Since water supply wells in the vicinity of the Site have not yet been impacted by site-related chemicals and since access to the Site is currently restricted, there are few short-term risks associated with the Site. Alternative 4, which includes removal of contaminated waste, could potentially pose some short-term risk to remedial workers during implementation; however, this risk could be eliminated through proper engineering, safety, and management practices.

Implementability

All of the alternatives are readily implementable. Alternative 1 is the most readily implementable since it involves no action. Alternatives 2, 3, and 4 rely on demonstrated technologies and proven and effective methods and equipment. Of the groundwater treatment technologies evaluated (which are identical for Alternatives 2, 3, and 4), air stripping would be easier to implement than UV oxidation, since UV oxidation would require a

treatability study prior to implementation.

Cost

Table 8 presents a cost comparison of the four alternatives. Alternative 1 has no additional costs since there would be no action taken at the Site. The costs of Alternatives 2, 3, and 4 increase progressively. A cost sensitivity analysis performed in the feasibility study indicated that the net present worth of Alternative 4 remains significantly higher than the other alternatives irrespective of operating life. Although the groundwater component of the remedy is identical for Alternatives 2, 3, and 4, the cost of the two groundwater treatment technologies considered for these alternatives differs substantially. The cost of UV oxidation is significantly more expensive than the cost of air stripping.

State Acceptance

The State of Arizona, through both the Department of Environmental Quality and the Department of Water Resources, has participated in the RI/FS process. Both agencies have assisted in the development of ARARs and the remedy selection process. Since Alternative 1 is not protective of human health and the environment, this alternative would not be acceptable to either agency. Since Alternative 2 does not include soil vapor extraction and there is potential for continuing contamination of groundwater by soil vapor, this alternative would not be acceptable to either agency. Both Alternatives 3 and 4 would be acceptable to the two agencies.

Community Acceptance

Since Alternative 1 is not protective of human health and the environment, this alternative would not be acceptable to the community. Several community members have expressed a preference for treatment of contaminated soil gas, and as a result it is unlikely that Alternative 2 would be acceptable to the community. Alternatives 3 and 4 generally appear acceptable to the community; although several community members have expressed a preference for Alternative 4 since this alternative includes excavation and treatment of contaminated soil. Finally, several community members expressed a concern over the time required to reach the groundwater cleanup standards under Alternatives 2, 3, and 4.

I. THE SELECTED REMEDY

Alternative 3 is the selected remedy for the Hassayampa Landfill Superfund Site. The selected remedy includes vadose zone (including soil and soil vapor above the water table) remediation and groundwater remediation. Table 9 provides an estimate of the

TABLE 9
ESTIMATED COST OF THE SELECTED REMEDY
HASSAYAMPA LANDFILL SUPERFUND SITE

Remedial Component	*Description*	*Estimated Cost*			
		Capital Cost	*Annual Cost*	*Present Worth of Annual Cost*	*Total Present Worth*
B1	Deed and Access Restrictions	$ 7,300	$ 500	$ 9,600	$ 17,000
B2	Cap	466,000	5,000	97,500	563,000
B8 & B9	Soil Vapor Extraction	2,347,000	Nil	Nil	2,347,000
B10, B11 & B12	Groundwater extraction, treatment, reinjection and monitoring				
	a) air stripping treatment	1,058,000	342,000	2,106,000	3,164,000
	b) UV oxidation treatment	1,539,000	480,000	4,758,000	6,297,000
	TOTAL a)	3,878,300	347,500	2,213,100	6,091,400
	b)	4,359,300	490,500	4,865,100	9,224,400
	TOTAL IMPLEMENTATION COST			**a)**	**$ 6,091,400**
					($ 6,100,000 rounded)
				b)	**$ 9,224,500**
					($ 9,200,000 rounded)

cost of the selected remedy with respect to the vadose zone and groundwater components.

GROUNDWATER

The groundwater component of the remedy includes extraction of contaminated groundwater, treatment of the water using air stripping, reinjection of the treated water, and continued groundwater monitoring to measure the effectiveness of the remedy. The number, location, and pumping rates of the extraction wells will be determined during the remedial design stage. To date, groundwater contamination has been restricted to Unit A, so it is anticipated that contaminated groundwater will only be extracted from this unit. In the event that groundwater contamination is identified in Unit B, then groundwater will also be extracted from Unit B.

Air stripping, rather than UV oxidation, was selected as the groundwater treatment technology. Both technologies are capable of attaining the selected cleanup standards; however, air stripping is significantly less expensive. It is anticipated that combined air emissions from the air stripper and SVE system at the Site will meet the Federal VOC guideline of 15 pounds per day and the Maricopa County VOC guideline of 3 pounds per day. In the event that these guidelines are exceeded, vapor phase carbon adsorption will be added to the air stripper (the selected remedy already calls for emissions controls to be placed on the SVE system). The treated water meeting the groundwater cleanup standards will be reinjected onsite or in the immediate vicinity of the Site. The number, location, depth, and injection rates of the reinjection well(s) will be determined during remedial design.

Continued groundwater monitoring will be performed to ensure the effectiveness of the remedy. The number of monitoring wells and frequency of sampling will have to be sufficient to measure the effectiveness of the remedy.

Federal MCLs have been selected as groundwater cleanup standards for the Site (Appendix A). The groundwater cleanup standards shall be met at all points within the contaminated aquifer. For the chemicals detected at the Site, the ADEQ MCLs and non-zero MCLGs are identical to the Federal MCLs, and, therefore, were not selected as cleanup standards. For those chemicals for which MCLs do not exist, ADEQ HBGLs have been selected as cleanup standards. There was one chemical, 1,1-dichloroethane, for which no ARARs or TBCs exist; however, this chemical is present at concentrations below risk-based levels. As a result, no groundwater cleanup standard was selected for this chemical.

VADOSE ZONE

The vadose zone component of the remedy includes installation of a cap over the 10-acre Hazardous Waste Area, soil vapor extraction and treatment, and access and deed restrictions. The purpose of the cap is to prevent direct contact with contaminated waste and soil left in place, to reduce infiltration of water, to reduce the release of VOC vapors to the atmosphere, and to improve the efficiency of the soil vapor extraction system. The design and construction details of the cap will be determined during remedial design; however, at a minimum the cap must meet the substantive capping and maintenance requirements for Resource Conservation and Recovery Act (RCRA) interim status facilities as described in 40 CFR Parts 265.310 and 265.117 and as described in the "EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments" (EPA/530-SW-89-047).

The vadose zone component of the remedy also includes performing soil vapor extraction at all locations at the Site where soil vapor levels exceed cleanup standards, and where waste and soil contamination has been demonstrated to be a threat to groundwater quality. While the specific areas of the Site which require soil vapor extraction will be determined by EPA during the remedial design, EPA presently expects these areas to include Pit 1, the area of soil vapor contamination north of Pit 1, and several portions of the Special Pits area. The location, number, and construction details of the soil vapor extraction vents will be determined during remedial design. The soil vapors will be treated using vapor phase carbon adsorption or catalytic oxidation, as determined during remedial design. The soil vapor cleanup standards will be levels, established by EPA, that are protective of groundwater quality (meaning that the migration of contaminants from the vadose zone to groundwater will not result in groundwater contamination that exceeds the groundwater cleanup standards), as determined by site-specific analytical modeling.

The selected remedy also includes implementation of access and deed restrictions at the Site. The perimeter fence will be upgraded and maintained to restrict unauthorized access to the Site. Long-term deed restrictions will also be imposed, thereby restricting future use of the Site. These restrictions will include (1) access limitations (including a requirement that a fence be maintained around the Site) and (2) use limitations (restricting future use of the Site and restricting use of groundwater beneath the Site).

Additional investigation will be performed during remedial design to define the extent of groundwater and soil vapor contamination at and in the vicinity of the Site.

The selected remedy for the Site allows contaminated waste and soil to remain onsite. As described in Section II-E of this ROD,

"Summary of Site Characteristics," Pit 1 was the only location where contaminants in waste or soil exceeded ADEQs proposed HBGLs or EPA's TCLP or EP Tox levels for organic chemicals. There were two pits which had minor exceedences of EP Tox levels for inorganic chemicals. It should be noted that the HBGLs have not been promulgated and that the TCLP levels were not necessarily intended to be used as cleanup standards. Through the use of access and deed restrictions and a cap, the selected remedy will prevent direct contact with contaminated waste and soil. Through the use of soil vapor extraction, the selected remedy will limit the migration of vadose zone contaminants to groundwater.

EPA believes that the selected remedy provides the best balance of tradeoffs with respect to the nine criteria. While Alternative 4 may provide a slight increase in protection of human health and the environment and reduction of toxicity, mobility or volume through treatment; EPA does not believe that these marginal benefits are necessary or justify the additional costs.

J. STATUTORY DETERMINATIONS

Under its legal authorities, EPA's primary responsibility at Superfund sites is to undertake remedial actions that achieve adequate protection of human health and the environment. In addition, Section 121 of CERCLA establishes several other statutory requirements and preferences that EPA must consider when evaluating remedial alternatives for a Superfund site. Section 121 of CERCLA specifies that when complete, a selected remedial action must comply with ARARs established under Federal and State environmental laws unless a statutory waiver is justified. The selected remedy also must be cost effective and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Finally, Section 121 of CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous wastes as their principal element. The following sections discuss how the selected remedy meets these statutory requirements.

1. PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT

Threats to human health and the environment posed by the Site include ingestion of contaminated groundwater, inhalation of VOCs in groundwater, and ingestion and contact with contaminated waste and soil. The selected remedy addresses the threat of exposure to contaminated groundwater through the extraction of contaminated groundwater and treatment to Federal and State regulatory levels. The selected remedy requires that these levels be met throughout the contaminated aquifer. The implementation of deed restrictions will provide further

protection by ensuring that drinking water wells are not installed onsite.

By requiring soil vapor extraction to levels that are protective of groundwater quality, the selected remedy ensures that vadose zone contaminants (soil and soil vapor) will not migrate to groundwater. The selected remedy addresses the threat of ingestion and contact with contaminated waste and soil through the use of access and deed restrictions and a cap. The cap will also minimize infiltration and limit the migration of vadose zone contamination to groundwater.

2. COMPLIANCE WITH ARARS

The selected remedy will comply with all Federal and more stringent State ARARs identified in Appendix A. In addition, the selected remedy will comply with TBCs identified in Appendix A.

3. COST-EFFECTIVENESS

The selected remedy is cost-effective in addressing the risks posed by the Site. Section 300.430(f)(ii)(D) of the NCP states that once a remedial action satisfies the threshold criteria (overall protection of human health and the environment and compliance with ARARs), cost-effectiveness is determined by evaluating the following three balancing criteria: long-term effectiveness and permanence; reduction of toxicity, mobility or volume through treatment; and short-term effectiveness.

The selected remedy provides the best overall effectiveness at the lowest cost. Alternatives 3 and 4 attain a similarly high level of overall protection of human health and the environment; compliance with ARARs; long-term effectiveness and permanence; and short-term effectiveness. Alternative 4 would provide a slightly greater reduction of toxicity, mobility or volume through treatment; however, EPA does not believe this slight reduction merits the significant increase in cost.

The groundwater treatment technology selected for the Site also provides the best overall effectiveness at the lowest cost. Two groundwater treatment technologies, air stripping and UV oxidation, were evaluated as part of Alternatives 2, 3, and 4. Air stripping (which is a component of the selected remedy) provides a similar level of protection and treatment at substantially less cost than UV oxidation.

4. UTILIZATION OF PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT TECHNOLOGIES OR RESOURCE RECOVERY TECHNOLOGIES TO THE MAXIMUM EXTENT PRACTICABLE

EPA has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment

technologies can be used at the Site in a practicable manner. The selected remedy provides the best balance of trade-offs in terms of long-term effectiveness and permanence, reduction in toxicity, mobility or volume through treatment, short-term effectiveness, implementability, and cost, while also considering State and community acceptance.

The selected remedy will result in a reduction in the volume and mobility of groundwater contaminants through groundwater extraction, treatment, and reinjection. Continued groundwater monitoring will be performed to ensure that the remedy is protective of human health and the environment. The selected remedy uses soil vapor extraction and treatment to prevent vadose zone contamination from continuing to contaminate groundwater. Additionally, a cap will be used to prevent contact with contaminated waste and soil and to further limit the migration of vadose zone contamination to groundwater.

5. PREFERENCE FOR TREATMENT AS A PRINCIPAL ELEMENT

The selected remedy satisfies the statutory preference for remedies that employ treatment as a principal element. By treating the contaminated groundwater using air stripping, the treated water can be returned to its beneficial use through reinjection. By performing soil vapor extraction and treatment, vadose zone contamination will be prevented from continuing to contaminate groundwater.

The selected remedy does allow a relatively small volume of contaminated soil (1,400 cubic yards) which exceeds ADEQ Health-Based Guidance Levels to remain onsite. By requiring access and deed restrictions and a cap, the selected remedy will prevent exposure to these contaminants. EPA does not believe that treatment of this contaminated soil is necessary or worth the additional cost.

K. SIGNIFICANT CHANGES

There are no significant differences between the remedy identified in the Proposed Plan and the remedy selected in the Record of Decision.

APPENDIX A
ARARs AND OTHER CRITERIA FOR THE SELECTED REMEDY
AT THE HASSAYAMPA LANDFILL SITE

This appendix identifies ARARs and other criteria to be considered (TBCs) for the selected remedy for the Hassayampa Landfill Site. The selected remedy shall meet the requirements of the ARARs identified below. Furthermore, unless otherwise indicated, the selected remedy shall also meet the requirements of the TBCs identified below.

CHEMICAL-SPECIFIC ARARs AND TBCs

Table A-1 presents chemical-specific ARARs and TBCs for water arranged by chemical compound. The Safe Drinking Water Act (SDWA) Maximum Contaminant Levels (MCLs) are based on human consumption of water for drinking, cooking, bathing, etc. Economic considerations and technical feasibility of treatment processes are included in the justification for these levels. MCLs are applicable to drinking water at the tap pursuant to the SDWA, and are ARAR for treated water when the end use is drinking water. Pursuant to 40 C.F.R. Section 300.430(e)(2)(i)(B), MCLs and non-zero Maximum Contaminant Level Goals (MCLGs) are relevant and appropriate as in-situ aquifer standards for groundwater that is or may be used as drinking water.

ADEQ Aquifer Water Quality Standards (ADEQ MCLs), established pursuant to A.R.S. Section 49-223 are identical to SDWA MCLs for the compounds detected in groundwater at the Hassayampa Landfill Site. Since ADEQ MCLs are not more stringent than the SDWA MCLs, these ADEQ standards are not ARARs and are not included in Table A-1.

ADEQ HBGLs for groundwater are TBCs for the Site. The HBGLs are derived from calculations based on ingestion of groundwater. The HBGLs have not been promulgated. ADEQ HGBLs were selected as cleanup standards only for chemicals for which no SDWA MCL or MCLGs existed.

Federal Health Advisories, which are criteria developed by either EPA's Office of Drinking Water Health Advisory Program or the National Academy of Sciences (NAS), were considered at the Site. The Federal Health Advisories are based on NAS-suggested Non-Adverse Response Levels (SNARLs) at which no known or anticipated adverse human health effects would occur, given an adequate margin of safety. These Federal Health Advisories were not selected as cleanup standards, since they were less stringent than the SDWA MCLs and ADEQ Health-Based Guidance Levels (HBGLs).

LOCATION-SPECIFIC ARARs

Table A-2 identifies location-specific ARARs and TBCs for the Hassayampa Landfill Site. Location-specific ARARs are concerned with the area in which the Site is located. Actions may be required to preserve or protect aspects of the environment or cultural resources of the area that may be threatened by the existence of the Site, or by remedial actions to be undertaken at the Site.

ACTION-SPECIFIC ARARs

Table A-3 identifies action-specific ARARs for the Hassayampa Landfill Site. The actions included in Table A-3 are components of the selected remedy.

ADDITIONAL STATE ARARs and TBCs

Arizona Revised Statute Section 49-224 is applicable or relevant and appropriate at the Hassayampa Landfill Site. A.R.S. Section 49-224 classifies all Arizona aquifers as drinking water aquifers. Section 45-454.01 of the Arizona Groundwater Management Act (GMA) (A.R.S. Sections 45-454.01), is also applicable or relevant and appropriate to the Site. All offsite uses of treated groundwater are subject to state law outside the context of the Superfund action. However, for activities conducted onsite, the substantive portions of the provisions referenced within Section 45-454.01 of the GMA shall be applicable or relevant and appropriate.

While the State of Arizona has cited 49 A.R.S. Section 282(D)(2) as an ARAR, EPA has not identified this Arizona law as an ARAR since it does not establish groundwater cleanup standards that are more stringent than the federal cleanup standards selected for the Hassayampa Landfill Site. Like Section 300.430(a)(iii) of the National Contingency Plan, 49 A.R.S. Section 282(D)(2) evinces an intent that remedial actions shall, to the extent practicable, provide for the control, management, or cleanup of hazardous substances so as to allow the maximum beneficial use of the waters of the State. The maximum beneficial use of groundwater in Arizona appears to be "drinking water protected use," which is defined as the protection and maintenance of aquifer quality for human consumption. See Ariz. Admin. Comp. R. 18-11-501; 49 A.R.S. Section 224 (which classifies all aquifers in Arizona as drinking water aquifers). Under 49 A.R.S. Section 223, aquifer water quality standards are established as primary maximum contaminant levels, which are the groundwater cleanup standards selected in this ROD in accordance with CERCLA Section 121(d).

TABLE A-1 - HASSAYAMPA LANDFILL SITE
GROUNDWATER CLEANUP STANDARDS, CHEMICAL SPECIFIC ARARS AND REQUIREMENTS TO BE CONSIDERED
CONCENTRATIONS IN PARTS PER BILLION (ppb)

Compound(A)	Maximum Concentration Detected	Selected Cleanup Standard	Applicable or Relevant and Appropriate		Other Criteria To Be Considered							
			SDWA MCL	SDWA MCLG	SDWA Proposed MCL	SDWA Proposed MCLG	1-day 10 kg	10-day 10kg	longer term 10 kg	longer term 70 kg	life-time 70 kg	ADEQ HBGL
benzene	.6	5	5	0			200	200	NA	NA	NA	
dichlorodifluoromethane	.35	1400	NA	NA	NA	NA	40000	40000	9000	30000	1000	1400
1,1-dichloroethene	2000	7	7	7			2000	1000	1000	4000	7	7
1,1-dichloroethane	27	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA	
1,1,1-trichloroethane	1500	200	200	200			100000	40000	40000	100000	200	200
1,2-dichloroethane	800	5	5	0			700	700	700	2600	N/A	.38
1,2-dichlorothene(cis)	160	70	70	70			4000	3000	3000	11000	70	
1,2-dichloroethene (trans)	160	100	100	100			20000	2000	2000	6000	100	100
1,2-dichloropropane	4	5	5	0			NA	90	NA	NA	NA	.56
acetone	19	700	NA	NA	NA	NA	NA	NA	NA	NA	NA	700
chlorobenzene	13	100	100	100			2000	2000	2000	7000	100	100
trichlorofluoromethane (Freon 11)	190	2100	NA	NA	NA	NA	7000	7000	3000	10000	200	2100
trichlorotrifluoroethane (Freon 113)	610	210000	NA	NA	NA	NA	NA	NA	NA	NA	NA	210000
methyl ethyl ketone	40	170	NA	NA	NA	NA	80000	8000	3000	9000	200	170
dichloromethane	15	5	NA	NA	5	0	10000	2000	NA	NA	NA	
tetrachloroethene	25	5	5	0			2000	2000	1000	5000	N/A	.67
toluene	15	1000	1000	1000			20000	2000	2000	7000	1000	2000
trihalomethanes(B)	63	100	100	NA								
trichloroethene	115	5	5	0			NA	NA	NA	NA	NA	
chromium(total)	40	50	100	100			1400	1400	240	840	170	100
xylenes(total)	1	10000	10000	10000			40000	40000	10000	100000	10000	
vinyl chloride(C)	ND	2	2	0			3000	3000	10	50	NA	

Notes:
Shaded Areas=Chemicals for which the maximum concentration exceeds the cleanup standard
(A) Compounds listed were detected and confirmed in groundwater samples taken during the RI and supplementary field investigations
(B) The sum of trihalomethanes MCL=100 (includes chloroform, bromodichloromethane, dibromochloromethane, and tribromomethane
(C) Vinyl Chloride has never been detected in groundwater samples as the site, but has been detected in soil gas samples
MCL=Maximum Contaminant Level
MCLG=Maximum Contaminant Level Goal
SDWA=Safe Drinking Water Act
N/A=No Standard Available
U.S. EPA Health Advisories
1-day/10kg=Concentration of compound in drinking water that could pose a risk if consumed by a 10 kg child for 1 day
10-day/10kg=Concentration of compound in drinking water that could pose a risk if consumed by a 10 kg child for 10 days
Longer Term/10kg=Concentration of compound in drinking water that could pose a risk if consumed by a 10 kg child for more than 10 days
Longer Term/70kg=Concentration of compound in drinking water that could pose a risk if consumed by a 70 kg adult for more than 70 days
Lifetime/10kg=Concentration of compound in drinking water that could pose a risk if consumed by a 70 kg adult for a lifetime

Table A-2
Location-Specific ARARs and Other Criteria for the Hassayampa Landfill Site

Location	Requirement	Prerequisite(s)	Citation	ARAR	Comments
Within floodplain	Action to avoid adverse effects, minimize potential harm, restore and preserve natural and beneficial values.	Action that will occur in a floodplain, i.e., lowlands, and relatively flat areas adjoining inland and coastal waters and other flood-prone areas.	Executive Order 11988, Protection of Flood-plains (40 CFR 6, Appendix A)	ARAR	Federal agencies are directed to ensure that planning programs and budget requests reflect consideration of flood-plain management, including the restoration and preservation of such land as natural undeveloped floodplains. If newly constructed facilities are to be located in a floodplain, accepted floodproofing and other flood control measures shall be undertaken to achieve flood protection. Whenever practical, structures shall be elevated above the base flood level rather than filling land. As part of any Federal plan or action, the potential for restoring and preserving floodplains so their natural beneficial values can be realized must be considered. The Hassayampa Landfill is located outside of the 100-year floodplain of the Hassayampa River, but may still be located within the floodplain of the river.
Within area where action may cause irreparable harm, loss, or destruction of significant artifacts	Action to recover and preserve artifacts.	Alteration of terrain that threatens significant scientific, prehistoric, historic, or archaeological data.	National Archaeological and Historical Preservation Act (16 USC Section 469); 36 CFR Part 65	ARAR	No artifacts are known to have been found in the vicinity of the Site. If artifacts are identified at the Site, this requirement will be applicable.
Critical habitat upon which endangered species or threatened species depends	Action to conserve endangered species or threatened species, including consultation with the Department of the Interior.	Determination of endangered species or threatened species.	Endangered Species Act of 1973 (16 USC 1531 et seq.); 50 CFR Part 200, 50 CFR Part 402	ARAR	No endangered or threatened species have been identified at the Site. If such species are identified at the Site, this requirement will be applicable.
Area affecting stream or river	Action to protect fish or wildlife.	Diversion, channeling, or other activity that modifies a stream or river and affects fish or wildlife.	Fish and Wildlife Coordination Act (16 USC 661 et seq.); 40 CFR 6.302	ARAR	This act requires coordination with the Department of Fish and Wildlife prior to any action that would alter a body of the United States. No activity is expected in the vicinity of the river, and the selected remedy is not expected to affect the river or associated riparian habitat and wetlands. This requirement will be applicable if the selected remedy will impact the river.
Riparian Area	Requires ADEQ to consider protection of riparian areas in its decision making.	Impact on riparian areas	Executive Order No.91-6 of the Govenorof AZ	ARAR	The landfill lies within the drainage area of the Hassayampa River, a riparian area as defined inExecutive Order 91-06 of the State of Arizona.

Table A-3
Action-Specific ARARs and Other Criteria for the Hassayampa Landfill Site

Action	Requirements	Prerequisites	Citation	ARAR	Comments
Container Storage (Onsite)	Containers of hazardous waste must be: • Maintained in good condition • Compatible with hazardous waste to be stored • Closed during storage (except to add or remove waste)	RCRA hazardous waste (listed or characteristic) held for a temporary period before treatment, disposal, or storage elsewhere, (40 CFR 264.10) in a container (i.e., any portable device in which a material is stored, transported, disposed of, or handled).	40 CFR 264-171 (R18-18-264.170, et seq.) 40 CFR 264.172 40 CFR 264.173	ARAR ARAR ARAR	These requirements are applicable or relevant and appropriate for any contaminated soil or ground water or treatment system waste that might be containerized and stored onsite prior to treatment or final disposal.
	Inspect container storage areas weekly for deterioration.		40 CFR 264.174	ARAR	
	Place containers on a sloped, crack-free base, and protect from contact with accumulated liquid. Provide containment system with a capacity of 10 percent of the volume of containers of free liquids. Remove spilled or leaked waste in a timely manner to prevent overflow of the containment system.		40 CFR 264.175	ARAR	
	Keep containers of ignitable or reactive waste at least 50 feet from the facility's property line.		40 CFR 264.176	ARAR	
	Keep incompatible materials separate. Separate incompatible materials stored near each other by a dike or other barrier.		40 CFR 264.177	ARAR	
	At closure, remove all hazardous waste and residues from the containment system, and decontaminate or remove all containers, liners.		40 CFR 264.178	ARAR	

Table A-3
Action-Specific ARARs and Other Criteria for the Hassayampa Landfill Site

Action	Requirements	Prerequisites	Citation	ARAR	Comments
Treatment	RCRA Standards for control of VOCs	Emissions of VOCs or gaseous contaminants	40 CFR 265 Subparts AA and BB	ARAR	This standard requires reduction of VOC emissions from process vents. Process vents include air strippers. The standard also sets emissions standards for equipment leaks.
	Control of VOCs and gaseous contaminants	Emissions of VOCs or gaseous contaminants	Maricopa County Rules 210, 320, 330	TBC	Maricopa County's January 1991 guidelines for implementing rule 210 require VOC emission controls for remediation site where uncontrolled VOC air emissions would exceed 3 lb/day. The air emission controls must have an overall efficiency of at least 90%. These criteria are selected as the air emission standards at Hassayampa based on considerations of the potential aggregate impacts of the air stripping and SVE systems.
	Control of air emissions from air strippers exceeding 3 lb/hr, 15 lb/day, or a potential rate of 10 tons/year total VOCs because VOCs are ozone precursors	Actual emission rate of 3 lb/hr, 15 lb/day or a potential rate of 10 tons/year	EPA OSWER Directive #9355.0-28 (June, 1989)	TBC	This guidance on the control of air emissions from air strippers used at Superfund sites is a TBC for the site. This policy evinces a need to control VOC emissions from sites which exceed 15 lb/day of total VOCs from air stripping and other vented extraction techniques (e.g. SVE).
	Standards for miscellaneous units require new miscellaneous units to satisfy environmental performance standards.	Treatment of hazardous wastes in units not regulated elsewhere under RCRA (e.g., air strippers).	40 CFR 264 (Subpart X)	ARAR	Air stripping towers and SVE units are considered miscellaneous units. Therefore the substantive requirements are relevant and appropriate
	Treatment of wastes subject to ban on land disposal must attain levels achievable by best demonstrated available treatment technologies (BDAT) for each hazardous constituent in each listed waste.	Treatment of LDR waste.	40 CFR 268 (Subpart D)	ARAR	The substantive portions of these requirements are applicable to the disposal of any Hassayampa site wastes that can be defined as restricted hazardous wastes (ie. drill cuttings).
	Remedial actions must comply with the substantive requirements of the CAA and its related programs, including the EPA-approved SIP		40 CFR 50-99	ARAR	The Clean Air Act (CAA) regulations define air quality management programs used to achieve the CAA goals. The State of AZ is responsible for the State Implementation Plan (SIP) which describes how the air quality programs will be implemented.
	Installation permits must be obtained to make alterations to machinery which may cause or contribute to air pollution	An alteration to machinery which may cause or contribute to air pollution	49 A.R.S. 480	ARAR	The substantive requirements of the Air Pollution Control Rules and Regulations for groundwater and soil treatment facilities are applicable to the site.

Table A-3
Action-Specific ARARs and Other Criteria for the Hassayampa Landfill Site

Action	Requirements	Prerequisites	Citation	ARAR	Comments
Capping	At final closure of a landfill or cell, the landfill must be capped or maintained in accordance with 40 CFR 265.310 and 265.117.	Closure of a RCRA interim status landfill	40 CFR 265.310 and 265.117 EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments (EPA/530-SW-89-047)	ARAR TBC	Although the site is not a RCRA interim status facility, the closure and post-closure care regulations contained in 40 CFR 265.310 and 265.117 are relevant and appropriate. Furthermore, the capping and maintenance requirements described in the "EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments" are TBCs. The cap at the site will comply with the substantive design and maintenance requirements specified in these regulations and in the guidance document.
Underground injection of treated groundwater	This regulation sets standards for types of underground injection wells. The UIC program prohibits activities that allow movement of contaminants into underground sources of drinking water which may result in violations of MCLs or adversely affect health. Compliance with the UIC program includeds (1) meeting MCLs for all constituents reinjected, (2) submitting inventory information, (3) obtaining a permit if the point of injection is offsite.	Action involving underground injection	40 CFR Parts 144-147	ARAR	Reinjection of treated groundwater at the site shall comply with these regulations. While a permit is not required for onsite CERCLA actions, the substantive requirements would apply for reinjection of treated groundwater onsite. Offsite reinjection will have to comply with the procedural and substantive portions of these regulations.
	Any person who discharges to an aquifer must obtain an Aquifer Protection permit from ADEQ	Discharge to an aquifer	49 A.R.S. 241-246	ARAR	The substantive requirements of the permit must be met for onsite reinjection.
Ground-Water Well Installation, Development, Testing, and Sampling	Any nonwaste material (e.g., ground water or soil) that contains a listed hazardous waste must be managed as if it were a hazardous waste.	Nonwaste material containing listed hazardous waste	RCRA "continued in" principle	ARAR	Contaminated soil and groundwater containing a listed hazardous waste must be managed as a hazardous waste. The "contained in" principle will not apply to groundwater treated to MCLs and ADEQ HBGLs at the site.
Ground-Water Monitoring	Ground-water monitoring at new or existing RCRA disposal units.	Creation of a new disposal unit, remedial actions at an existing RCRA unit or disposal of RCRA hazardous waste	40 CFR, Subpart F	ARAR	The groundwater monitoring requirements contained in 40 C.F.R. Section 265 Subpart F are relevant and appropriate for the site.

APPENDIX B
RESPONSIVENESS SUMMARY - HASSAYAMPA LANDFILL SUPERFUND SITE

The Proposed Plan for the Hassayampa Landfill Superfund Site was issued to the public on June 28, 1992. The Proposed Plan described EPA's preferred alternative for cleanup of the Site and announced the public comment period from June 1 through June 30, 1992. On June 11, 1992, EPA presented the Proposed Plan at a public meeting and accepted comments regarding the Proposed Plan.

During the public meeting, Doris M. Heisler, representing the Tonopah Valley Association, read a letter containing comments on the Proposed Plan. This same letter, dated June 11, 1992, was submitted in writing during the public comment period. A second letter, dated June 29, 1992, was submitted by Stephen M. Quigley of Conestoga-Rovers and Associates Limited on behalf of the Hassayampa Steering Committee. A summary of the comments provided, as well as EPA's response to each comment, is provided below.

Commenter: Doris M. Heisler, Tonopah Valley Association

This letter did not include specific comments on the Proposed Plan, but rather described several concerns relating to the landfill and asked several questions pertaining to the Proposed Plan.

1. Comment:

   The commenter expressed concern over past acceptance of hazardous waste at the landfill and continued acceptance of municipal waste at the landfill. The commenter expressed a preference that the landfill be closed and converted to a transfer station.

1. EPA Response:

   The Hassayampa Landfill no longer accepts hazardous waste. The acceptance of municipal waste at the landfill is in compliance with Federal and State regulations.

2. Comment:

   The commenter assumed that hazardous waste materials and contaminated soils would be removed from the landfill and that contaminated groundwater would be treated.

3. EPA Response:

   Contaminated groundwater at the Site will be extracted and treated. Contaminated soil gas that poses a threat to groundwater quality will also be treated. The selected

remedy does allow contaminated soil and waste material to remain in place at the Site. The volume of contaminated soil and waste which exceeds the Arizona Health-Based Guidance Levels for surface soil is relatively small (1,400 cubic yards). Exposure to this material will be prevented through the use of a cap and access and deed restrictions. The soil vapor extraction system will minimize migration of soil and waste contaminants to groundwater.

4. Comment:

The commenter requested that the technologies associated with the various alternatives be explained further. Additionally, the commenter asked whether the cap would consist of compacted soil, a plastic liner, or both.

4. EPA Response:

The technologies associated with the various alternatives considered are described in detail in the Feasibility Study and the Description of Alternatives section of the Record of Decision (ROD). The Feasibility Study and ROD are part of the Administrative Record for the Site, which is available for review at the Buckeye library located at 310 North 6th Street in Buckeye, Arizona. The technologies associated with the alternatives were further described during the public meeting.

The cap design will meet the substantive requirements of a RCRA cap for Interim Status facilities, as described in 40 CFR Parts 265.310 and 265.117, and as described in the "EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments" (EPA/530-SW-89-047). Final cap design will be determined during the remedial design phase. It is expected that the cap will consist of a compacted soil cover. It is possible, but not necessarily required, that a synthetic liner could be used in the cap construction. The cap will cover the 10-acre hazardous waste area of the landfill.

5. Comment:

The commenter expressed a preference for a remedy that includes deed restrictions and treatment of soil gas.

5. EPA Response:

Deed restrictions and soil gas treatment are components of the selected remedy.

6. Comment:

The commenter expressed concern over risk factors associated with the Site and expressed a preference for cleanup methods which offer the greatest level of protection of public health, whether or not these methods are required by law or meet regulatory standards.

6. EPA Response:

The selected remedy is protective of human health and the environment. Of the cleanup alternative evaluated for the Site, Alternative 3 (the selected remedy) and Alternative 4 would attain similarly high levels of protection. Alternative 4 would provide a slightly higher level of protection since contaminated waste and soil from Pit 1 would be excavated and treated. This would provide additional protection in the event that the cap and access and deed restrictions fail to prevent contact with contaminated waste and soil. EPA believes that the cap and access and deed restrictions provide sufficient protection from exposure to contaminated waste and soil left in place at the Site.

Commenter: Stephen M. Quigley, Conestoga-Rovers and Associates

1. Comment:

The Proposed Plan incorrectly states that samples of groundwater collected from Arizona Department of Health Services (ADHS) monitoring wells installed at the Site were found to be contaminated with VOCs. In fact only samples from one of the ADHS wells contained groundwater contamination.

1. EPA Response:

EPA agrees with the commenter and this statement has been corrected in the Record of Decision.

2. Comment:

The Proposed Plan incorrectly states that groundwater at the Site is contaminated by SVOCs.

2. EPA Response:

EPA agrees with the commenter and the appropriate corrections have been made in the Record of Decision.

3. Comment:

The Proposed Plan states that the cap for the hazardous

waste area would be required to meet or exceed the requirements of RCRA. The commenter requested that the appropriate requirements, as stated in the RCRA regulations, which relate to the design and construction of the cap be presented in the ROD.

3. EPA Response:

EPA agrees with the commenter. Additional language describing the specific regulations which apply to design, construction, and maintenance of the cap have been added to the ROD. The cap design will meet the substantive requirements of a RCRA cap for Interim Status facilities, as described in 40 CFR Parts 265.310 and 265.117 and as described in the EPA Technical Guidance Document: Final Covers on Hazardous Waste Landfills and Surface Impoundments (EPA/530-SW-89-047). EPA believes that it is sufficient to cite the specific regulations and guidance documents, and that it is not necessary to fully describe the requirements of these regulations and guidance documents in the text of the ROD.

4. Comment:

The following important documents should have been included in the Administrative Record for the Site:

- Stage I Report
  Remedial Investigation/Feasibility Study
  Hassayampa Landfill Site, Maricopa County, AZ
  March 13, 1992
- Liquid Waste Evaluation Report
  Hassayampa Landfill Site, Maricopa County, AZ
  October 9, 1990
- Response to Agency Comments
  Technical Screening Memorandum
  Hassayampa Landfill Site
  January 29, 1992

Several other documents are also missing from the Administrative Record. These documents include several monthly data submittals and progress reports, letters notifying EPA of schedules and procedures for field work, EPA letters of approval for field work, distribution lists for project deliverables, the draft RI report, the draft FS report, and various correspondence pertaining to the RI/FS. While it is not necessary to include these other documents in the Administrative Record, the Hassayampa Steering Committee wants to note the existence of these documents.

4. EPA Response:

EPA agrees with the commenter that the Stage I RI/FS Report, the Liquid Waste Evaluation, and the Response to Agency Comments - Technical Screening Memorandum should be included in the Administrative Record. These documents have subsequently been added to the Administrative Record.

With respect to the other documents identified as missing from the Administrative Record, EPA believes that the Administrative Record for the Site is complete. If the Hassayampa Steering Committee wishes to specifically identify other documents that belong in the Administrative Record, EPA will consider inclusion of these documents.

APPENDIX C

HASSAYAMPA LANDFILL

SUPERFUND SITE

Maricopa County, Arizona

ADMINISTRATIVE RECORD CUMULATIVE INDEX

May 29,1992

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IX

FACT SHEET

Administrative Records in Local Repositories

The "administrative record" is the collection of documents which form the basis for an agency's decision, in this case the selection of a response action at a Superfund site. Under Section 113(k) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), EPA is required to establish an administrative record for every Superfund response action and to make a copy of the administrative record available at or near the site.

The administrative record file must be reasonably available for public review during normal business hours. The record file should be treated as a non-circulating reference document. This will allow the public greater access to the volumes and also minimize the risk of loss or damage. Individuals may photocopy any documents contained in the record file, according to the photocopying procedures at the local repository.

The documents in the administrative record file may become damaged or lost during use. If this occurs, the local repository manager should contact the EPA Regional Office for replacements. Documents may be added to the record file as the site work progresses. Periodically, EPA may send supplemental volumes and indexes directly to the local repository. These supplements must be placed with the initial record file.

The administrative record file will be maintained at the local repository until further notice. Questions regarding the maintenance of the record file should be directed to the EPA Regional Office.

The Agency welcomes comments at any time on documents contained in the administrative record file. Please send any such comments to:

Thomas Dunkelman
Remedial Project Manager
U.S. EPA (H-7-2)
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2395

Vicki Rosen
Community Relations Coordinator
U.S. EPA (H-1-1)
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2188 or
1-800-231-3075

The Agency may hold formal public comment periods at certain stages of the response process. The public is urged to use these formal review periods to submit their comments.

INTRODUCTION

HASSAYAMPA LANDFILL SUPERFUND SITE

Maricopa County, Arizona

Administrative Record and Index

The administrative record file for the Hassayampa Landfill Superfund Site, Maricopa County, Arizona, contains documents ranging in date from January 1977 to May 1992. The index presents the documents in ascending chronological order, reflecting the organization of the documents in the file itself. Undated documents are placed at the beginning of the sequence.

Each of the 820 documents has been assigned a unique number for purposes of identification.

The documents contained in the administrative record file were used by the U.S. Environmental Protection Agency to identify remedial activities appropriate for use at the Hassaymapa Landfill Superfund Site, Maricopa County, Arizona.

ABBREVIATIONS AND ACRONYMS USED IN ADMINISTRATIVE RECORD

#	number
&	and
admin	administrative
Assoc	Associates
ATI	Analytical Technologies, Inc.
attch	attached, attachment
Ave	Avenue
AZ	Arizona
AZDEQ	Arizona Department of Environmental Quality
AZDOEQ	Arizona Department of Enivronmental Quality
AZDOWR	Arizona Department of Water Resources
AZDWR	Arizona Department of Water Resources
CA	California
Co	Company
cont	contract
Corp	Corporation
CRP	Community Relations Plan
Dept	Department
Div	Division
doc	document
encl	enclosure
EPA	Environmental Protection Agency
ex	exemption
FIT	Field Investigation Team
FOIA	Freedom of Information Act
fr	from
FS	Feasibility Study
GCMS	gas chromatograph/mass spectograph
HSC	Hassayampa Steering committee
Inc	Incorporated
info	information
lab	laboratory
ltr	letter
Memo	memorandum
MSDS	Material Safety Data Sheet
mtg	meeting
Newsclip	newsclipping
NIBW	North Indian Bend Wash Superfund Site
NPL	National Priorities List
PA	Preliminary Assessment
pg	page
pp	pages
PRP	Potentially Responsible Party
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCRA	Resources Conservation and Recovery Act
re	regarding
ref	reference
rev	revision
RI	Remedial Investigation

ROC	Record of Communication
ROD	Record of Decision
SOW	statement of work
St	Saint
Sys	Systems
TDD	Technical Directive Document
TES	Technical Enforcement Support
TL	Transmittal Letter
TWG	Technical Work Group
US	United States
USA	United States of America
v	volume
VOC	volatile organic compounds
w/o	without
w/in	within
w/	with
WA	work assignment

APPENDIX C

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
00/00/00	AR 1			Analytical results tables for metals, volatile organics
00/00/00	AR 2	Bechtel Power Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0017 (marked "Void")
00/00/00	AR 3	MAACO Auto Painting & Bodyworks	AZ Dept of Health Services	AZ hazardous waste manifest #0318
00/00/00	AR 4	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #1208
00/00/00	AR 5	Ramada Energy Systems, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1216
00/00/00	AR 6	American National Can Co	AZ Dept of Health Services	AZ hazardous waste manifest #1157 - 1161
00/00/00	AR 7			Information on Hassayampa River, groundwater, soil, wells, field inspections, population downgradient fr site
00/05/30	AR 8	Sonja Clay GTE	AZ Dept of Health Services	AZ hazardous waste manifest #1075, 1080
00/05/31	AR 9	Velsicol Chemical Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0067
77/01/00	AR 10	Kenneth Schmidt, et al, consultants State of Arizona	AZ Dept of Health Services	Hydrogeologic conditions & waste disposal at Hassayampa, Casa Grande & Somerton landfills AZ w/o maps
79/00/00	AR 11	Atlantic Richfield Co	AZ Dept of Health Services	AZ hazardous waste manifest #0340 - 0341
79/00/00	AR 12	Southern Pacific Pipelines, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0393 - 0394
79/04/25	AR 13	Southwest Ink Co	AZ Dept of Health Services	AZ hazardous waste manifest #0001
79/04/27	AR 14	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0002
79/05/00	AR 15	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0058 - 0062

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
79/05/01	AR 16	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0005 - 0009
79/05/07	AR 17	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0011 - 0015
79/05/09	AR 18	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0018, 0020
79/05/10	AR 19	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0005
79/05/14	AR 20	Rolamech Co	AZ Dept of Health Services	AZ hazardous waste manifest #0019
79/05/14	AR 21	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0021 - 0025
79/05/14	AR 22	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0088 - 0092
79/05/14	AR 23	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0069
79/05/15	AR 24	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0026 - 0030
79/05/15	AR 25	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0031 - 0035
79/05/15	AR 26	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0036 - 0040
79/05/15	AR 27	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0041
79/05/18	AR 28	Frazee Paint & Wallcovering/Deer-O Paints & Chemicals	AZ Dept of Health Services	AZ hazardous waste manifest #0047
79/05/18	AR 29	Frazee Paint & Wallcovering/Deer-O Paints & Chemicals	AZ Dept of Health Services	AZ hazardous waste manifest #0048
79/05/18	AR 30	ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0049 - 0051

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
79/05/22	AR 31	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0042 - 0046
79/05/23	AR 32	General Semiconductor Industries, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0052
79/05/23	AR 33	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0053 - 0057
79/05/23	AR 34	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0295 - 0299
79/05/23	AR 35	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0403 - 0405
79/05/23	AR 36	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0538 - 0542
79/05/24	AR 37	Eason & Waller Grinding Co	AZ Dept of Health Services	AZ hazardous waste manifest #0063
79/05/24	AR 38	Helena Chemical Co	AZ Dept of Health Services	AZ hazardous waste manifest #0064
79/05/25	AR 39	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #0065
79/05/30	AR 40	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #0066
79/05/30	AR 41	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0016
79/06/01	AR 42	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0068
79/06/05	AR 43	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0076 - 0080
79/06/05	AR 44	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0073 - 0075
79/06/06	AR 45	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0081
79/06/07	AR 46	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0082 - 0083

MASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
79/06/11	AR 47	A D & D Salvage and Disposal, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0070 - 0072
79/06/11	AR 48	AAMCO Transmissions	AZ Dept of Health Services	AZ hazardous waste manifest #0101
79/06/11	AR 49	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0100
79/06/12	AR 50	Phoenix Newspapers, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0263
79/06/12	AR 51	Green Genie Nursery, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0084
79/06/12	AR 52	Phoenix Newspapers, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0085 - 0086
79/06/12	AR 53	Phoenix Newspapers, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0201
79/06/13	AR 54	Frazee Paint & Wallcovering/Deer-O Paints & Chemicals	AZ Dept of Health Services	AZ hazardous waste manifest #0108
79/06/14	AR 55	Dick Mordino Technifinish, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0087
79/06/14	AR 56	Technifinish, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0087
79/06/14	AR 57	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0093 - 0097
79/06/14	AR 58	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0098
79/06/25	AR 59	Velsicol Chemical Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0110
79/06/26	AR 60	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0111
79/06/28	AR 61	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0122 - 0126
79/06/28	AR 62	Honeywell, Inc	AZ Dept of Health	AZ hazardous waste manifest #0127 - 0129

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
			Services	
79/06/28	AR 63	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0117, 0119 - 0121
79/07/02	AR 64	Bud West, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0112
79/07/02	AR 65	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #0113
79/07/02	AR 66	Velsicol Chemical Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0115 - 0116
79/07/09	AR 67	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0130, 0133
79/07/11	AR 68	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #0131
79/07/12	AR 69	Mogul Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0135
79/07/12	AR 70	Union Manufacturing, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0140
79/07/16	AR 71	Powerine Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #0132
79/07/16	AR 72	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0136 - 0139
79/07/25	AR 73	Rogers Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0141
79/07/26	AR 74	Velsicol Chemical Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0144 - 0145
79/07/27	AR 75	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #0143
79/07/30	AR 76	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0152 - 0156
79/07/30	AR 77	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0146 - -149

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
79/07/30	AR 78	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0150 - 0151
79/08/01	AR 79	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0162
79/08/06	AR 80	Plymouth Tube	AZ Dept of Health Services	AZ hazardous waste manifest #0196
79/08/06	AR 81	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0163 - 0167
79/08/06	AR 82	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0168 - 0172
79/08/07	AR 83	Fisher Heat Treating, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0175
79/08/08	AR 84	Goettl Air Conditioning, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0173
79/08/10	AR 85	Bud's Oil Service, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0174
79/08/13	AR 86	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0177 - 0178
79/08/14	AR 87	Allied Signal Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0176
79/08/15	AR 88	Allied Signal Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0197
79/08/17	AR 89	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #0179
79/08/17	AR 90	Western Dynex Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0180
79/08/20	AR 91	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0181 - 0184
79/08/23	AR 92	Mogul Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0185
79/08/23	AR 93	Mogul Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0289

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
79/08/24	AR 94	Bob Bickle Arizona Hard Chrome	AZ Dept of Health Services	AZ hazardous waste manifest #0237
79/08/24	AR 95	Arizona Hard Chrome	AZ Dept of Health Services	AZ hazardous waste manifest #0237
79/08/31	AR 96	Bio-Lab, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0200
79/08/31	AR 97	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0190 - 0194
79/08/31	AR 98	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0195
79/08/31	AR 99	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0186 - 0189
79/09/00	AR 100	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0208 - 0212
79/09/04	AR 101	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #0198
79/09/04	AR 102	Ashland Chemical Co	AZ Dept of Health Services	AZ hazardous waste manifest #0199
79/09/06	AR 103	F & B Manufacturing Co	AZ Dept of Health Services	AZ hazardous waste manifest #0202
79/09/07	AR 104	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0223
79/09/11	AR 105	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0217 - 0221
79/09/11	AR 106	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0203 - 0207
79/09/11	AR 107	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0213 - 0216
79/09/12	AR 108	Bechtel Power Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0232
79/09/14	AR 109	Union Manufacturing, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0234

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
79/09/14	AR 110	Frazee Paint & Wallcovering/Deer-O Paints & Chemicals	AZ Dept of Health Services	AZ hazardous waste manifest #0236
79/09/14	AR 111	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0224 - 0228
79/09/14	AR 112	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0229 - 0231
79/09/17	AR 113	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #0233
79/09/24	AR 114	Sherwin Williams	AZ Dept of Health Services	AZ hazardous waste manifest #0235
79/09/26	AR 115	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0248 (marked "Void")
79/09/26	AR 116	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0242 - 0246
79/09/26	AR 117	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0247
79/09/27	AR 118	R E Caroselli Shell Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #0249 - 0252
79/10/00	AR 119	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0253 - 0257
79/10/00	AR 120	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0258 - 0262
79/10/09	AR 121	R E Caroselli Shell Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #0264 - 0267
79/10/11	AR 122	Union Manufacturing, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0270
79/10/11	AR 123	ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0275
79/10/12	AR 124	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #0268
79/10/16	AR 125	Luke Air Force Base	AZ Dept of Health	AZ hazardous waste manifest #0274

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
			Services	
79/10/18	AR 126	Gould, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0276
79/10/18	AR 127	ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0277
79/10/18	AR 128	ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0278 - 0279
79/10/19	AR 129	Luke Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #0288 (marked "Void")
79/10/22	AR 130	Arizona Petroleum Contractors & Consultants, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0387
79/10/22	AR 131	Lajet, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0327 - 0332
79/10/23	AR 132	Gould, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0290
79/10/25	AR 133	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0311 - 0315
79/10/25	AR 134	Honeywell, Inc	AZ Dept of Health Servic[illegible]	AZ hazardous waste manifest #0316 - 0317
79/10/25	AR 135	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0307 (marked "Void")
79/10/25	AR 136	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0308
79/10/25	AR 137	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0309 (marked "Void")
79/10/25	AR 138	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0310
79/11/00	AR 139	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0300 - 0304
79/11/00	AR 140	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0305 - 0306

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
79/11/09	AR 141	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0333 - 0336
79/11/12	AR 142	Sherwin Williams	AZ Dept of Health Services	AZ hazardous waste manifest #0337
79/11/15	AR 143	Union Manufacturing, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0351
79/11/15	AR 144	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0346 - 0350
79/11/15	AR 145	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0343 - 0345
79/11/19	AR 146	Southern Pacific Pipelines, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0339
79/11/19	AR 147	Phoenix Newspapers, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0338
79/11/19	AR 148	Arizona Precision Sheet Metal	AZ Dept of Health Services	AZ hazardous waste manifest #0342
79/11/19	AR 149	Dunn-Edwards Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0352
79/11/27	AR 150	Frazee Paint & Wallcovering/Deer-O Paints & Chemicals	AZ Dept of Health Services	AZ hazardous waste manifest #0353
79/11/27	AR 151	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0354 - 0358
79/11/27	AR 152	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0359 - 0363
79/11/28	AR 153	MAACO Auto Painting & Bodyworks	AZ Dept of Health Services	AZ hazardous waste manifest #0364
79/11/29	AR 154	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #0365
79/12/03	AR 155	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #0374
79/12/05	AR 156	Karlson Machine Works,	AZ Dept of Health	AZ hazardous waste manifest #0375

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Inc	Services	
79/12/05	AR 157	R T Manufacturing Co, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0376
79/12/07	AR 158	ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0377 - 0379
79/12/12	AR 159	Phoenix Newspapers, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0380
79/12/12	AR 160	R E Caroselli Shell Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #0424 - 0429
79/12/13	AR 161	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0381 - 0385
79/12/13	AR 162	Wayne Oxyger	AZ Dept of Health Services	AZ hazardous waste manifest #0386 - 0390
79/12/13	AR 163	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0391 - 0392
79/12/14	AR 164	Phoenix Newspapers, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0406
79/12/14	AR 165	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0407
79/12/14	AR 166	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0408
79/12/14	AR 167	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0409
79/12/14	AR 168	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0410
79/12/14	AR 169	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0411
79/12/14	AR 170	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0412
79/12/14	AR 171	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0413

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
79/12/14	AR 172	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0414
79/12/14	AR 173	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0415
79/12/14	AR 174	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0416
79/12/14	AR 175	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0417
79/12/14	AR 176	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0418 (marked "Void")
79/12/14	AR 177	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0419 (marked "Void")
79/12/14	AR 178	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0420 (marked "Void")
79/12/14	AR 179	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0421
79/12/14	AR 180	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0422
79/12/14	AR 181	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0423
79/12/19	AR 182	Union Manufacturing, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0456
79/12/20	AR 183	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0450 (marked "Void")
79/12/20	AR 184	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0451 (marked "Void")
79/12/20	AR 185	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0452
79/12/20	AR 186	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0453
79/12/20	AR 187	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0454 (marked "Void")

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
79/12/20	AR 188	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0455 (marked "Void")
79/12/20	AR 189	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0448 (marked "Void")
79/12/20	AR 190	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0449 (marked "Void")
79/12/26	AR 191	R E Caroselli Shell Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #0457 - 0462
79/12/26	AR 192	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0463 - 0466
79/12/28	AR 193	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0395 - 0397
80/00/00	AR 194	Williams Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #0666
80/01/00	AR 195	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0398 - 0402
80/01/01	AR 196	Sherwin Williams	AZ Dept of Health Services	AZ hazardous waste manifest #0467
80/01/02	AR 197	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0468 - 0471
80/01/02	AR 198	George Rowlan Maricopa County, AZ - Health Dept	Suzanne Dandoy AZ Dept of Health Services	Ltr: Concerns & questions re establishing hazardous disposal site
80/01/07	AR 199	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0472 - 0474
80/01/07	AR 200	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0479 - 0483
80/01/07	AR 201	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0484 - 0488
80/01/07	AR 202	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0475 - 0478
80/01/08	AR 203	Western Electric - AT&T	AZ Dept of Health	AZ hazardous waste manifest #0489 - 0490

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Technologies	Services	
80/01/15	AR 204	Luke Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #0491
80/01/16	AR 205	Philip Li Allied Signal Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0492
80/01/21	AR 206	Josephine Gilbert Gilbert Nursery	AZ Dept of Health Services	AZ hazardous waste manifest #0504
80/01/21	AR 207	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0493
80/01/23	AR 208	Bob Bickle Arizona Hard Chrome	AZ Dept of Health Services	AZ hazardous waste manifest #0510
80/01/23	AR 209	ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0505 - 0507
80/01/23	AR 210	Intel Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0509
80/01/23	AR 211	Arizona Hard Chrome	AZ Dept of Health Services	AZ hazardous waste manifest #0510
80/01/23	AR 212	Allied Signal Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0511
80/01/25	AR 213	US Dept of Veterans Affairs	AZ Dept of Health Services	AZ hazardous waste manifest #0512
80/01/28	AR 214	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #0513
80/01/31	AR 215	Intel Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0554
80/02/00	AR 216	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0528 - 0532
80/02/00	AR 217	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0543
80/02/01	AR 218	Bechtel Power Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0601 - 0602

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/02/01	AR 219	F & B Manufacturing Co	AZ Dept of Health Services	AZ hazardous waste manifest #0544 - 0545
80/02/07	AR 220	Frazee Paint & Wallcovering/Deer-O Paints & Chemicals	AZ Dept of Health Services	AZ hazardous waste manifest #0546
80/02/11	AR 221	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0557 - 0560
80/02/12	AR 222	GTE	AZ Dept of Health Services	AZ hazardous waste manifest #0556
80/02/13	AR 223	Luke Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #0561
80/02/15	AR 224	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #0562
80/02/19	AR 225	Arizona Public Service Co	AZ Dept of Health Services	AZ hazardous waste manifest #0563 - 0566
80/02/19	AR 226	Megadyne Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0609 - 0613
80/02/19	AR 227	Megadyne Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0614 - 0618
80/02/20	AR 228	F & B Manufacturing Co	AZ Dept of Health Services	AZ hazardous waste manifest #0567
80/02/21	AR 229	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0568 - 0571
80/02/25	AR 230	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0572 - 0576
80/02/25	AR 231	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0577 - 0581
80/02/27	AR 232	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0586 - 0589
80/02/28	AR 233	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0533 - 0537
80/02/29	AR 234	Union Manufacturing, Inc	AZ Dept of Health	AZ hazardous waste manifest #0603

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
			Services	
80/02/29	AR 235	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0582 - 0585
80/03/02	AR 236	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0635 - 0639
80/03/03	AR 237	Allied Signal Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0590 - 0592
80/03/03	AR 238	R E Caroselli Shell Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #0593 - 0598
80/03/12	AR 239	R E Caroselli Shell Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #0627 - 0630
80/03/12	AR 240	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0625 - 0626
80/03/14	AR 241	David Seidel Williams Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #0664 - 0665
80/03/14	AR 242	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0710
80/03/17	AR 243	R R Evans	AZ Dept of Health Services	AZ hazardous waste manifest #0631
80/03/17	AR 244	Chevron USA, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0632 - 0634
80/03/18	AR 245	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0690 - 0691 w/attch lab rpt
80/03/19	AR 246	Motorola, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0711 - 0712
80/03/19	AR 247	Wayne Thomas ITT Cannon/Integrated Specialty Connectors Div	AZ Dept of Health Services	AZ hazardous waste manifest #0662 - 0663
80/03/19	AR 248	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0647 - 0650
80/03/21	AR 249	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0672 - 9674

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/03/24	AR 2..	Sola-Syntex Ophthalmics	AZ Dept of Health Services	AZ hazardous waste manifest #0716
80/03/25	AR 251	Arizona Public Service Co	AZ Dept of Health Services	AZ hazardous waste manifest #0676
80/03/25	AR 252	Arizona Public Service Co	AZ Dept of Health Services	AZ hazardous waste manifest #0675
80/03/25	AR 253	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0677 - 0681
80/03/25	AR 254	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0682 - 0686
80/03/27	AR 255	Frazee Paint & Wallcovering/Deer-O Paints & Chemicals	AZ Dept of Health Services	AZ hazardous waste manifest #0692
80/03/28	AR 256	Raul Rodriguez ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifests #0687 - 0689
80/03/28	AR 257	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0695 - 0699
80/03/28	AR 258	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0700 - 0704
80/03/28	AR 259	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #0705 - 0709
80/04/00	AR 260	Southwest Distributing	AZ Dept of Health Services	AZ hazardous waste manifest #1717, 0787, 1106, 1150, 1155
80/04/02	AR 261	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #0693
80/04/02	AR 262	Goettl Air Conditioning, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0694
80/04/07	AR 263	Luke Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #0713
80/04/08	AR 264	Velsicol Chemical Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0718
80/04/08	AR 265	Texaco Inc	AZ Dept of Health	AZ hazardous waste manifest #0735 - 0737

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
			Services	
80/04/09	AR 266	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #0714
80/04/09	AR 267	American Warehouse	AZ Dept of Health Services	AZ hazardous waste manifest #0715
80/04/09	AR 268	Luke Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #0719
80/04/14	AR 269	Williams Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #0734
80/04/15	AR 270	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #0721
80/04/19	AR 271	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0738 - 0741
80/04/21	AR 272	Perry Rehabilitation Center	AZ Dept of Health Services	AZ hazardous waste manifest #0720
80/04/22	AR 273	ADR Ultrasound	AZ Dept of Health Services	AZ hazardous waste manifest #0742
80/04/24	AR 274	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0744 - 0748
80/04/24	AR 275	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0749 - 0753
80/04/24	AR 276	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0754 - 0758
80/04/24	AR 277	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0759 - 0763
80/04/24	AR 278	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0764 - 0768
80/04/24	AR 279	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0769 - 0773
80/04/24	AR 280	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0774 - 0778

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/04/24	AR 281	Liquid Air Corp	AZ Dept of Hea -- Services	AZ hazardous waste manifest #0779 - 0782, 0824
80/04/24	AR 282	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0640 - 0644
80/04/28	AR 283	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0783 - 0786
80/05/05	AR 284	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #0789
80/05/05	AR 285	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0896 - 0900
80/05/05	AR 286	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0901 - 0905 (not on original PRP list)
80/05/05	AR 287	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0790 - 0791
80/05/05	AR 288	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0825 - 0829
80/05/05	AR 289	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0792 - 0793
80/05/05	AR 290	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0831 - 0835
80/05/05	AR 291	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0794 - 0795 (marked "Void")
80/05/05	AR 292	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0836 - 0840
80/05/05	AR 293	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0796 - 0797 (marked "Void")
80/05/05	AR 294	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0841 - 0845
80/05/05	AR 295	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0798 - 0802
80/05/05	AR 296	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0846 - 0850

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/05/05	AR 297	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0803, 1032 - 1035
80/05/05	AR 298	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0851 - 0855
80/05/05	AR 299	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0856 - 0860
80/05/05	AR 300	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0861 - 0865
80/05/05	AR 301	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0866 - 0870
80/05/05	AR 302	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0871 - 0875
80/05/05	AR 303	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0876 - 0880
80/05/05	AR 304	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0881 - 0885
80/05/05	AR 305	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0886 - 0890
80/05/05	AR 306	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0891 - 0895
80/05/06	AR 307	Michael Tompkin ITT Cannon/Integrated Specialty Connectors Div	AZ Dept of Health Services	AZ hazardous waste manifest #0830
80/05/06	AR 308	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0939 - 0943
80/05/06	AR 309	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0944 - 0945
80/05/06	AR 310	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0949 - 0953 (marked "Void")
80/05/06	AR 311	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0954 - 0957 (marked "Void")
80/05/06	AR 312	Liquid Air Corp	AZ Dept of Health	AZ hazardous waste manifest #0959

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
			Services	
80/05/06	AR 313	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0964 - 0968 (marked "Void")
80/05/06	AR 314	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0969 - 0973 (marked "Void")
80/05/06	AR 315	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0974 - 0978 (marked "Void")
80/05/06	AR 316	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0979 - 0983 (marked "Void")
80/05/06	AR 317	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0984 - 0988 (marked "Void")
80/05/06	AR 318	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0989 - 0993
80/05/06	AR 319	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0994 - 0998 (marked "Void")
80/05/06	AR 320	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0999 - 1003 (marked "Void")
80/05/06	AR 321	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1004 - 1008 (marked "Void")
80/05/06	AR 322	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1009 - 1013 (marked "Void")
80/05/06	AR 323	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1014 - 1018 (marked "Void")
80/05/06	AR 324	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1019 - 1023 (marked "Void")
80/05/06	AR 325	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0923 - 0927
80/05/06	AR 326	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1024 - 1027 (marked "Void")
80/05/06	AR 327	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0928 - 0932

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/05/06	AR 328	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0933 - 0938
80/05/06	AR 329	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0906 - 0910
80/05/06	AR 330	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0960 - 0963 (marked "Void")
80/05/06	AR 331	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0958
80/05/06	AR 332	Liquid Air Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0946 - 0948 (marked "Void")
80/05/07	AR 333	ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #0911 - 0913
80/05/07	AR 334	Robert Rowe Continental Circuits Corp	AZ Dept of Health Services	AZ hazardous waste manifest #0914
80/05/07	AR 335	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #1057
80/05/07	AR 336	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1050 - 1054
80/05/09	AR 337	Arizona Public Service Co	AZ Dept of Health Services	AZ hazardous waste manifest #0915
80/05/09	AR 338	Luke Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #1028 - 1031
80/05/09	AR 339	General Instrument Co	AZ Dept of Health Services	AZ hazardous waste manifest #0916 - 0920
80/05/09	AR 340	General Instrument Co	AZ Dept of Health Services	AZ hazardous waste manifest #0921 - 0922, 1162 - 1164
80/05/09	AR 341	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1036 - 1040
80/05/09	AR 342	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1041
80/05/10	AR 343	Treffers Precision, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1042 w/attch lab rpt

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/05/16	AR 344	Chevron USA, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1043
80/05/16	AR 345	Lajet, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1044
80/05/16	AR 346	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1045 - 1049
80/05/19	AR 347	Arizona Precision Sheet Metal	AZ Dept of Health Services	AZ hazardous waste manifest #1055 - 1056
80/05/22	AR 348	Bob Bickle Arizona Hard Chrome	AZ Dept of Health Services	AZ hazardous waste manifest #1058
80/05/22	AR 349	Arizona Hard Chrome	AZ Dept of Health Services	AZ hazardous waste manifest #1058
80/05/27	AR 350	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1119 - 1123
80/05/27	AR 351	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1124 - 1128
80/05/27	AR 352	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1129 - 1131
80/05/27	AR 353	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1114 - 1118
80/05/27	AR 354	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #0645 - 0646
80/05/28	AR 355	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #0788
80/05/29	AR 356	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #1059
80/05/29	AR 357	Dan Obele Dan J Obele	AZ Dept of Health Services	AZ hazardous waste manifest #1074
80/05/29	AR 358	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1076 - 1079
80/05/30	AR 359	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1060 - 1064

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/06/01	AR 360	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1088 (marked "Void")
80/06/01	AR 361	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1093, 1248 - 1251
80/06/01	AR 362	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1089 - 1092
80/06/01	AR 363	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1084 - 1085 (marked "Void")
80/06/01	AR 364	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1086
80/06/01	AR 365	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1087 (marked "Void")
80/06/04	AR 366	Larry Flaningan ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1081 - 1083
80/06/08	AR 367	R E Caroselli Shell Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #1109 - 1113
80/06/09	AR 368	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1132, 1227 - 1230
80/06/17	AR 369	Sherwin Williams .	AZ Dept of Health Services	AZ hazardous waste manifest #1133
80/06/19	AR 370	Bechtel Power Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1136 (marked "Void")
80/06/19	AR 371	Arizona Tank Lines, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1134
80/06/23	AR 372	James Brown Armour Research Center	AZ Dept of Health Services	AZ hazardous waste manifest #1135
80/06/24	AR 373	W A Krueger Co	AZ Dept of Health Services	AZ hazardous waste manifest #1137
80/06/25	AR 374	F & B Manufacturing Co	AZ Dept of Health Services	AZ hazardous waste manifest #1147
80/06/25	AR 375	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1138 - 1142

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/06/27	AR 376	Tiernay Turbines	AZ Dept of Health Services	AZ hazardous waste manifest #1146
80/06/27	AR 377	Union Manufacturing, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1149
80/06/27	AR 378	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1065 - 1069
80/07/00	AR 379	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #1207 (marked "Void")
80/07/00	AR 380	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1185 - 1186
80/07/01	AR 381	Bean & Co	AZ Dept of Health Services	AZ hazardous waste manifest #1148
80/07/05	AR 382	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #1151
80/07/08	AR 383	Southwest Distributing	AZ Dept of Health Services	AZ hazardous waste manifest #1156, 1202, 1256, 1367,1399
80/07/09	AR 384	Gould Inc/Navcom Sys	AZ Dept of Health Services	AZ hazardous waste manifest #1154
80/07/10	AR 385	Robert Rowe Continental Circuits Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1152
80/07/10	AR 386	Penn Athletics Products	AZ Dept of Health Services	AZ hazardous waste manifest #1205
80/07/11	AR 387	General Instrument Co	AZ Dept of Health Services	AZ hazardous waste manifest #1165 - 1166
80/07/14	AR 388	Robert Rowe Continental Circuits Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1167
80/07/14	AR 389	G H Chew Rinchem Co, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1168 - 1171
80/07/14	AR 390	G H Chew Rogers Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1172
80/07/15	AR 391	W Reichert Luke Air Force Base	AZ Dept of Health Services	AZ hazardous waste manifest #1178 - 1179

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/07/16	AR 392	Leonard Milowski Rinchem Co, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1173 -1177
80/07/18	AR 393	American National Can Co	AZ Dept of Health Services	AZ hazardous waste manifest #1196, 1198 - 1201
80/07/18	AR 394	Anocad Plating & Painting Co, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1203
80/07/18	AR 395	ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1204
80/07/20	AR 396	R E Caroselli Shell Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #1209 - 1212 w/attch material safety data sheet (MSDS)
80/07/22	AR 397	Action Chemical Co	AZ Dept of Health Services	AZ hazardous waste manifests
80/07/22	AR 398	Ashland Chemical Co	AZ Dept of Health Services	AZ hazardous waste manifest #1213 - 1214
80/07/22	AR 399	Huddleston Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1206
80/07/23	AR 400	Karlson Machine Works, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1215
80/07/25	AR 401	Larry Flaningam ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1217 - 1219
80/07/25	AR 402	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1070 - 1073
80/07/25	AR 403	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1180 - 1184
80/07/27	AR 404	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1252 - 1255, 1315
80/07/28	AR 405	Frazee Paint & Wallcovering/Deer-O Paints & Chemicals	AZ Dept of Health Services	AZ hazardous waste manifest #1220 w/attch lab rpt
80/07/29	AR 406	Western Electric - AT&T Technologies	AZ Dept of Health Services	AZ hazardous waste manifest #1221

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/07/29	AR 407	Jim Olszewski American National Can Co	AZ Dept of Health Services	AZ hazardous waste manifest #1224 - 1226
80/07/30	AR 408	Bill Martin Phoenix Newspapers, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1223
80/07/30	AR 409	Tiernay Turbines	AZ Dept of Health Services	AZ hazardous waste manifest #1232 - 1233 w/attch lab rpts
80/07/30	AR 410	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1231, 1234, 1235
80/08/00	AR 411	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1143 - 1145
80/08/01	AR 412	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1236 - 1240
80/08/04	AR 413	Gerald Chew Reynolds Metals Co	AZ Dept of Health Services	AZ hazardous waste manifest #1241 - 1241, 1242, 1244, 1246
80/08/04	AR 414	Reynolds Metals Co	AZ Dept of Health Services	AZ hazardous waste manifest #1243 (marked "Void")
80/08/04	AR 415	Reynolds Metals Co	AZ Dept of Health Services	AZ hazardous waste manifest #1245 (marked "Void")
80/08/04	AR 416	General Instrument Cc	AZ Dept of Health Services	AZ hazardous waste manifest #1247
80/08/06	AR 417	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1257 - 1258
80/08/11	AR 418	Bruce Ginynn Gowan Co	AZ Dept of Health Services	AZ hazardous waste manifest #1259
80/08/11	AR 419	St Regis Paper Co	AZ Dept of Health Services	AZ hazardous waste manifest #1260
80/08/12	AR 420	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1264 - 1267
80/08/13	AR 421	Gerald Chew Reynolds Metals Co	AZ Dept of Health Services	AZ hazardous waste manifest #1261 - 1262
80/08/13	AR 422	Sahuaro Petroleum & Asphalt Co	AZ Dept of Health Services	AZ hazardous waste manifest #1263 (marked "Void")

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/08/14	AR 423	George Munro American National Can Co	AZ Dept of Health Services	AZ hazardous waste manifest #1269 - 1274
80/08/15	AR 424	Dave Young ITT Courier, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1276
80/08/15	AR 425	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1275
80/08/18	AR 426	David Lampe Arizona Distribution Services	AZ Dept of Health Services	AZ hazardous waste manifest #1301
80/08/19	AR 427	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1277 - 1281
80/08/19	AR 428	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1282 - 1285
80/08/19	AR 429	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1286 - 1286-a
80/08/19	AR 430	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1287 - 1891
80/08/19	AR 431	Wayne Oxygen Co	AZ Dept of Health Services	AZ hazardous waste manifest #1292 - 1293
80/08/19	AR 432	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1294 - 1295
80/08/19	AR 433	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1296 - 1299
80/08/19	AR 434	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1300
80/08/21	AR 435	Robert Rowe Continental Circuits Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1302 - 1303
80/08/25	AR 436	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1316 - 1320
80/08/25	AR 437	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1321 - 1324, 1352
80/08/27	AR 438	Bean & Co	AZ Dept of Health	AZ hazardous waste manifest #1329 - 1332

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
			Services	
80/08/28	AR 439	Jeremy Brodsky McGraw-Edison Co	AZ Dept of Health Services	AZ hazardous waste manifest #1335 (marked "Void")
80/09/02	AR 440	GECI Liquidating Corp/Gilbert Engineering	AZ Dept of Health Services	AZ hazardous waste manifest #1341 - 1342 (marked "Void")
80/09/-	AR 441	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1344 - 1348
80/09/04	AR 442	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1349 - 1351
80/09/08	AR 443	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1353 - 1357
80/09/08	AR 444	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1358, 1384 - 1385, 1419 - 1420
80/09/08	AR 445	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1363 - 1364
80/09/08	AR 446	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1365 - 1366 (marked "Void")
80/09/10	AR 447	Arizona Hard Chrome	AZ Dept of Health Services	AZ hazardous waste manifest #1374
80/09/16	AR 448	Allied Signal Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1378 (marked "Void")
80/09/22	AR 449	Intel Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1387 (marked "Void")
80/09/29	AR 450	General Instrument Co	AZ Dept of Health Services	AZ hazardous waste manifest #1410
80/10/02	AR 451	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1421 - 1425
80/10/02	AR 452	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1426 - 1430
80/10/02	AR 453	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1431 - 1432, 1436 - 1438

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/10/03	AR 454	Southwest Distributing	AZ Dept of Health Services	AZ hazardous waste manifest #1435, 1487
80/10/03	AR 455	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1439 - 1443
80/10/03	AR 456	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #14444 - 1447
80/10/03	AR 457	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1448
80/10/08	AR 458	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1449
80/10/10	AR 459	Shell Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #1455 (marked "Void")
80/10/10	AR 460	Jack Tobin Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1456 - 1458
80/10/12	AR 461	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1470 - 1473
80/10/14	AR 462	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1474, 1490 -1493
80/10/14	AR 463	Sperry Corp	AZ Dept of Health Services	AZ hazardous waste manifest #1476 - 1479
80/10/14	AR 464	GECI Liquidating Corp/Gilbert Engineering	AZ Dept of Health Services	AZ hazardous waste manifest #1503 (marked "Void")
80/10/15	AR 465	Standard Oil Co	AZ Dept of Health Services	AZ hazardous waste manifest #1484 - 1486 (marked "Void")
80/10/17	AR 466	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1488 - 1489
80/10/17	AR 467	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest # (marked "Void")
80/10/20	AR 468	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1494 - 1498
80/10/20	AR 469	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1499 - 1501

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
80/10/20	AR 470	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1514 - 1516
80/10/22	AR 471	Russell Worth Union Carbide	AZ Dept of Health Services	AZ hazardous waste manifest #118, 269-273, 280-299, 319-26, 366-73, 431-47, 651-61, 722-33, 1094-1105, 1187-95, 1304-1310A, 1380-2, 1388-97, 1535-6
80/10/22	AR 472	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1520 - 1522 1525, 1542
80/10/22	AR 473	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1523 - 1524 (marked "Void")
80/10/22	AR 474	Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1534 (marked "Void")
80/10/22	AR 475	David Bessinger Digital Equipment Co	AZ Dept of Health Services	AZ hazardous waste manifest #1533
80/10/22	AR 476	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1518 - 1519
80/10/23	AR 477	General Instrument Co	AZ Dept of Health Services	AZ hazardous waste manifest #1541
80/10/27	AR 478	GTE	AZ Dept of Health Services	AZ hazardous waste manifests #1558 - 1559
80/10/28	AR 479			Hassayampa Landfill hazardous waste disposal site disposal analysis (4/20/79 - 10/28/80) w/attchs
81/02/10	AR 480	Ecology & Environment, Inc	Robert Mandel Environmental Protection Agency - Region 9	Site inspection rpt (FIT Project TDD #F-9-8012-2)
81/03/11	AR 481	Gary Hokkanen Environmental Protection Agency - Region 9		Potential hazardous waste site log w/attch tentative disposition rpt, identification & preliminary assessment rpt
82/03/17	AR 482	Ertec Western, Inc	AZ Nuclear Power Project	Geotechnical evaluation of influence of Hassayampa hazardous wastes on PVNGS conveyance pipeline
83/01/28	AR 483	Patty Cook		Preliminary assessment (PA) w/attch

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Ecology & Environment, Inc		contact rpt 1/1/83
83/07/12	AR 484	G L Muth Environmental Protection Agency - Region 9		Data validation case #1717 re volatile, acid, base/neutral, TCDD, pesticide fractions & inorganics
83/08/05	AR 485	Ecology & Environment, Inc	Robert Mandel Environmental Protection Agency - Region 9	Site inspection & sampling documentation rpt (TDD #R9-8304-8)
83/12/09	AR 486	John Hawley, Mayor City of Buckeye, AZ	Nick Sciarro Maricopa County, AZ - Landfill Dept	Ltr: Questions re site impact on local community
83/12/21	AR 487	R C Esterbrooks, County Engineer Maricopa County, AZ - Highway Dept	John Hawley, Mayor City of Buckeye, AZ	Ltr: Response to 12/9/83 ltr re Hassayampa - landfills monitored, groundwater monitoring wells installed 1/82
85/00/00	AR 488	AZ Dept of Health Services		Newsletter: Hassayampa Landfill: Arizona's next Superfund site? (Fall 1985:6)
85/05/01	AR 489	Charles Graf AZ Dept of Health Services		Site inspection rpt
85/06/00	AR 490	Charles Graf AZ Dept of Health Services		Compilation of irrigated land, wells & dwellings w/in 3-mile radius of site
85/07/09	AR 491	Charles Graf AZ Dept of Health Services		Contact rpt
85/07/10	AR 492	Charles Graf AZ Dept of Health Services		Contact rpt
86/08/22	AR 493	Robert Henckel AZ Dept of Water Resources	Simon Navarro AZ Dept of Environmental Quality	Ltr: Comments on draft statement of work (SOW) & community relations plan (CRP) w/comments
86/09/02	AR 494	Simon Navarro AZ Dept of Environmental Quality	Jeanne Dunn Environmental Protection Agency - Region 9	TL: Responses to EPA review comments w/attch comments

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
87/01/15	AR 495	Patricia Port US Dept of Interior	Bruce Blanchard US Dept of Interior	Memo: Preliminary natural resources survey
87/04/21	AR 496	Mike McCloy Phoenix Gazette		News: Companies asked to pay for cleanup
87/04/22	AR 497	Errol L Montgomery & Assoc, Inc		Results of preliminary hydrogeologic investigations
87/04/22	AR 498	Betty Beard Arizona Republic		Newsclip: Firms may be billed for dump cleanup
87/07/08	AR 499			Table 2: Analytical methods & detection limits for hazardous substances, rev 0, pp 16.1 - 16.6
87/08/26	AR 500	Keith Takata Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: Preliminary comments re draft workplan 8/7/87 (privileged FOIA ex 5)
87/08/26	AR 501	Errol L Montgomery & Assoc, Inc		Health & safety plan RI/FS w/2/2/88 addendum
87/08/26	AR 502	Keith Takata Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: Preliminary comments on draft workplan
87/09/00	AR 503	Hassayampa Steering Committee		Response to comments by EPA on workplan for RI/FS w/TL to Keith Takata fr James Derouin, 9/4/87
87/09/22	AR 504	Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	Supplemental responses to comments by EPA on workplan for RI/FS w/TL to Keith Takata fr James Derouin, 9/22/87
87/09/22	AR 505	Jeanne Dunn Environmental Protection Agency - Region 9	Chuck Graf AZ Dept of Environmental Quality	ROC: Comments on draft RI/FS workplan
87/09/22	AR 506	Keith Takata Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: General comments on QAPP, sample plan w/attch specific comments on same, QA/QC requirements for reviewing organic sampling data by PRPs
87/09/25	AR 507	Keith Takata Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor Osborn & Maledon	Ltr: Comments on HNU portable gas analyzer for sampling air quality, risk assessment to be done by EPA

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
91/02/25	AR 508	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Request for additional data needed to evaluate SUTRA modeling results (redacted FOIA ex 5)
87/09/29	AR 509	Jeanne Dunn Environmental Protection Agency - Region 9	Phil King AZ Dept of Environmental Quality	ROC: Mud and water disposal
87/10/01	AR 510	Simon Navarro AZ Dept of Environmental Quality	Jeanne Dunn Environmental Protection Agency - Region 9	Ltr: Review comments on 8/7/87 draft workplan, QAPP, health & safety plan w/attchs
87/10/15	AR 511	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	William Keener Environmental Protection Agency - Region 9	TL: Revised workplan schedule graph of estimated project timing w/attch schedule w/marginalia
87/10/19	AR 512	Jeanne Dunn Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Comments on draft 8/7/87 workplan for RI/FS w/attch (privileged FOIA ex 5)
87/10/19	AR 513	Jeanne Dunn Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Comments on site health & safety plan
87/11/07	AR 514	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Ltr: Response to bullet #7 in EPA comments on RI/FS workplan 8/26/87
87/12/00	AR 515	H G Coleman Lockheed Corp	P A Arberg Environmental Protection Agency - Environmental Monitoring Systems Laboratory	Aerial photographic analysis of site (Cont #68-03-3245, TS-AMD-87743)
88/00/00	AR 516			Documents re EPA & CA (OH)2 (Clean Water Act, RCRA hazardous waste, EPA methods, reference materials) date range: 1937-1988
88/01/29	AR 517	Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	Quality assurance project plan (QAPP) remedial investigation/feasibility study (RI/FS)
80/07/23	AR 518	Honeywell, Inc	AZ Dept of Health Services	AZ hazardous waste manifest #1222 (marked "Void")
88/02/02	AR 519	Errol L Montgomery &		Health & safety plan RI/FS w/Figure 2:

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Assoc, Inc		Site location map 1988 in back pocket
88/02/04	AR 520	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Ltr: Revision to 1/29/88 consent order exhibit: QAPP, RI/FS w/attch replacement page
88/02/19	AR 521	Jeff Zelikson Environmental Protection Agency - Region 9		Administrative consent order docket #88-08 w/attch appendix: Financially participating non-signatories
88/02/23	AR 522	Catherine Crozier Clayton Environmental Consultants, Inc	Thomas Weisbeck Conestoga-Rovers & Associates, Ltd	Ltr: Tenas tubes for TO1 sampling w/attch collection procedure, w/o tubes
88/02/25	AR 523	Virginia Donohue Environmental Protection Agency - Region 9		Press Release: U.S. EPA reaches settlement on investigation of Hassayampa Superfund site
88/03/02	AR 524	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Monthly progress rpt #1 for 2/88 per consent order
88/03/07	AR 525	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Ltr: Proposed alternate monitor well locations w/o attch figure 2
88/03/10	AR 526	Jeanne Dunn Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Approval of alternate locations for groundwater monitoring wells & soil borings.
88/03/11	AR 527			Draft list of total waste contributed by generators w/marginalia
88/03/18	AR 528	Jeanne Dunn Environmental Protection Agency - Region 9	Simon Navarro AZ Dept of Environmental Quality	Ltr: Workplan, QAPP, health & safety plan, PRP first monthly progress rpt, request attendance at technical meeting
88/03/23	AR 529	Jeanne Dunn Environmental Protection Agency - Region 9	Bob Evans Maricopa County, AZ - Health Dept	Ltr: County air quality requirements w/o attch RI/FS workplan
88/04/05	AR 530	Analytical Technologies, Inc		EPA method 8240 data for SB-8 accession #014360, analysis date 3/18/88, matrix=soil
88/04/05	AR 531	Analytical Technologies, Inc		EP Toxicity metals for SB-8, SB-10, SB-11 accession #014360, matrix=soil

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
88/04/05	AR 532	Analytical Technologies, Inc		Chain of custody for SB-8 accession #16074 w/TLs 3/11/88 & 4/5/88
88/04/05	AR 533	M Barry Analytical Technologies, Inc		Quality control data for SB-8, accession #16074, re method 8240
88/04/05	AR 534	Analytical Technologies, Inc		Reagent blanks for SB-8 accession #16074 matrix=water, methanol, analysis dates 3/18-19/88
88/04/05	AR 535	Analytical Technologies, Inc		EP Toxicity metals data for SB-8 accession #16074, matrix=soil, analysis dates 3/24-28/88 w/attch quality control data sheets
88/04/05	AR 536	Analytical Technologies, Inc		EPA method 8240 data for SB-8, SB-10, SB-11 accession #014360, matrix=soil, ehtanol, analysis date 3/17-28/88 (redacted FOIA ex 5)
88/04/08	AR 537	Analytical Technologies, Inc		EP Toxicity metals data for SB-10 accession #16084, matrix=soil, analysis dates 3/14-4/7/88 w/attch quality control data sheets
88/04/11	AR 538	Analytical Technologies, Inc		EPA method 8240 data for SB-10, SB-11 accession #014368, matrix=soil, analysis date 3/20/88
88/04/11	AR 539	Analytical Technologies, Inc		Quality control data accession #16084, analysis date: 3/25/88
88/04/11	AR 540	M Barry Analytical Technologies, Inc		Reagent blanks for SB-10, SB-11 sample #16084 matrix=methanol, water analysis date: 3/18-19/88
88/04/11	AR 541	Analytical Technologies, Inc		Chain of custody for SB-10 & SB-11 accession #16084 w/TLs 3/15/88 & 4/11/88
88/04/13	AR 542	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Monthly progress rpt #2 for 3/88 per consent order
88/04/14	AR 543	Jeanne Dunn Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	TL: Minutes of Technical Work Group (TWG) meeting 4/12/88, revised TWG mailing list per consent order w/attchs

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
88/05/00	AR 544	Analytical Technologies, Inc		Organic data results for HS-1 & HS-1 duplicate accession #805139, test=volatiles, matrix=aqueous, analysis date 5/27/88
88/05/00	AR 545	Analytical Technologies, Inc		Reagent & trip blanks for HS-1 & HS-1 duplicate accession #805139, tests=volatile organics, matrix=aqueous, analysis dates 5/27/88
88/05/12	AR 546	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Monthly progress rpt #3 for 4/88 per consent order
00/00/00	AR 547	Environmental Protection Agency - Region 9		Community relations program w/attch list of contacts & interested parties, community relations schedule (redacted FOIA 6)
88/05/25	AR 548	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Ltr: Recommend modification to QAPP to include alternative method of nitrate analysis, notification of groundwater sampling
88/05/27	AR 549	Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	Data submittal for 4/88 per 2/19/88 consent order
88/05/27	AR 550	Analytical Technologies, Inc		Organic quality control data MW-5UA, HS-1, test=volatiles, matrix=aqueous, analysis date 5/27/88
88/05/31	AR 551	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Ltr: Request modification of tables 2 & 3 of QAPP (Exhibit B to consent order)
88/05/31	AR 552	Jeanne Dunn Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Approval to modify QAPP to use EPA method 353.2 for nitrate analyses
88/05/31	AR 553	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Ltr: Modification to QAPP in accordance w/admin consent order per request of Analytical Technologies lab
88/06/00	AR 554	Analytical Technologies, Inc		Organic data results for MW-4UA accession #806130, tests=volatiles & semi-volatiles, matrix=aqueous, analysis dates 6/29/88, 8/1/88

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
88/06/00	AR 555	Analytical Technologies, Inc		Reagent & trip blanks for MW-4UA accession #806130, tests=volatiles & semi-volatiles, matrix=aqueous, analysis dates 6/29/887/13/88, 8/1/88
88/06/00	AR 556	Analytical Technologies, Inc		Organic quality control data for MW-4UA accession #806130, tests=volatiles & semi-volatiles, matrix=aqueous, analysis dates 6/28/88, 8/1/88
88/06/03	AR 557	Analytical Technologies, Inc		Organic data results for MW-1UA, MW-3UA, MW-2UB accession #806006, tests=volatiles, matrix=aqueous, analysis dates 6/3/88
88/06/03	AR 558	Analytical Technologies, Inc		Reagent & trip blanks for MW-1UA, MW-3UA, MW-2UB accession #806006, test=volatiles, semi-volatiles, pesticide/PCB, analysis dates 6/3-15/88
88/06/06	AR 559			Search results for soil & HS-1 - toluene, ethane, butane, methane, ethene
88/06/06	AR 560	Analytical Technologies, Inc		GCMS results HS-1 accession #806025, test=volatiles, matrix=soil, analysis date 6/6/88 w/marginalia
88/06/06	AR 561	Jeanne Dunn Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Comments on 5/31/88 ltr re revisions to QAPP, request info re lab SOP for tin analyses using EPA method 200.7
88/06/10	AR 562	Analytical Technologies, Inc		Organic data results for MW-2UA accession #806047, test=volatiles, semi-volatiles, pesticides/PCB, matrix=aqueous, analysis dates 6/15/ 6/21/ 7/7/88
88/06/14	AR 563	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Monthly progress rpt #4 for 5/88 per consent order
88/06/14	AR 564	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Ltr: Pumping test water, distribution list for deliverables per consent order w/attch list
88/06/15	AR 565	Analytical Technologies,		Reagent & trip blanks for MW-2UA

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Inc		acce on #806047, test=volatiles, semi-vola ies, pesticides/PCB, analysis dates 6/15, 6/21/ 6/29/88
88/06/15	AR 566	Analytical Technologies, Inc		Organic quality control data for MW-2UA accession #806047, test=volatiles, semi-volatiles, pesticides/PCB, matrix=aqueous, analysis date 6/15-29/88
88/06/17	AR 567	Michael Barry, Robert Woods Analytical Technologies, Inc	Errol L Montgomery & Assoc, Inc	Lab analysis rpts for HS-1 soil samples accession #806025
88/06/27	AR 568			Search results re MW-1UB re toluene, 1,1,1-trichloroethane, 1,1-dichloroethane
88/06/27	AR 569	Analytical Technologies, Inc		Reagent & trip blanks for MW-1UB, MW-3UB accession #806096, test=volatiles, semi-volatiles, pesticide/PCB, analysis dates 6/27/88, 7/20/88
88/06/27	AR 570	Analytical Technologies, Inc		Organic data results for MW-1UB, MW-3UB accession #806096, test=volatiles, semi-volatiles, pesticide/PCB, matrix=aqueous, analysis dates 6/27-7/20/88
88/06/30	AR 571	Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	Data submittal for 5/88 per 2/19/88 consent orde
88/07/00	AR 572	Analytical Technologies, Inc		Organic data results for MW-4UB for volatiles & semi-volatiles, matrix=aqueous, analysis dates 7/2/88 & 8/5/88
88/07/00	AR 573	Analytical Technologies, Inc		Reagent & trip blanks for MW-4UB accession #806170, tests=volatiles & semi-volatiles, analysis dates 7/2/88 & 8/4/88 w/attch quality control sheets
88/07/12	AR 574	William Victor Errol L Montgomery & Assoc, Inc	Jeanne Dunn Environmental Protection Agency - Region 9	Ltr: Modification to QAPP to include alternative analyses mthods for groundwater in accordance w/admin consent order per request of Analytical Tech

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
88/07/13	AR 575	Analytical Technologies, Inc		Metals data for SS-4, SS-6 accession #805088 w/marginalia
88/07/13	AR 576	Analytical Technologies, Inc		Metals results for SS-4, SS-6 accession #805088
88/07/13	AR 577	Analytical Technologies, Inc		Organic quality control data for MW-5UA & MW-5UA duplicate accession #807002, tests=volatiles, semi-volatiles, pesticides/PCB, analysis date 7/13/88
88/07/14	AR 578	Michael Barry, Robert Woods Analytical Technologies, Inc	Errol L Montgomery & Assoc, Inc	Lab analysis rpts for surface sediment samples accession #805088
88/07/15	AR 579	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #5 for 6/88 per admin consent order 2/19/88 docket #88-08
88/07/20	AR 580	Analytical Technologies, Inc		Inorganic data for MW-2UA accesstion #806047, general chemistry & metals
88/07/26	AR 581	Analytical Technologies, Inc		Chain of custody for HS-1 & HS-1 duplicate accession #805139
88/08/02	AR 582	Analytical Technologies, Inc		Inorganic data for MW-1UB, MW-3UB accession #806096, general chemistry & metals
88/08/11	AR 583	Analytical Technologies, Inc		Inorganic data for MW-1UA, MW-3UA, MW-2UB accession #806006, metals
88/08/12	AR 584	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #6 for 7/88 per admin consent order 2/19/88 docket #88-08
88/08/13	AR 585	Analytical Technologies, Inc		Inorganic data for MW-1UA, MW-3UA, MW-2UB accession #806006, general chemistry & metals w/marginalia
88/08/18	AR 586	Analytical Technologies, Inc		Inorganic data for MW-4UB accession #806170, general chemistry & metals
88/08/19	AR 587	Analytical Technologies, Inc		Inorganic data for MW-5UA, MW-5UA duplicate accession #807002, general chemistry & metals

MASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
88/08/22	AR 588			QA/QC proceudre volatile organics analyses checklist to organize lab results & check legal requirements, accession #s 806025, 805088, 16074, 16084
88/08/24	AR 589	Analytical Technologies, Inc		Chain of custody for MW-2UA, accession #806047
88/08/31	AR 590	Errol L Montgomery & Assoc, Inc		Data submittal for 7/88 RI/FS v2: Appendices B, C & D
88/08/31	AR 591	Errol L Montgomery & Assoc, Inc		Data submittal for 7/88 per admin consent order 2/19/88 for RI/FS w/Figure 1: Location map 5/88 & Figure 2: Sampling locations in back pocket
88/09/01	AR 592	US Public Health Service - Agency for Toxic Substances & Disease Registry		Preliminary health assessment w/TL to Jerry Clifford fr Stephen Von Allmen, 10/14/88
88/09/08	AR 593	Stephen Von Allmen US Public Health Service - Agency for Toxic Substances & Disease Registry	Jerry Clifford Environmental Protection Agency - Region 9	Ltr: Request comments on draft preliminary health assessment w/attch rpt
88/09/12	AR 594	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #7 for 8/88 per admin consent order 2/19/88 docket #88-08
88/09/26	AR 595	Analytical Technologies, Inc		Chain of custody for MW-5UA & MW-5UA duplicate
88/09/26	AR 596	Analytical Technologies, Inc		Chain of custody for MW-4UA accession #806130
88/09/26	AR 597	Analytical Technologies, Inc		Chain of custody for MW-4UB accession #806170
88/09/27	AR 598	Analytical Technologies, Inc		Chain of custody for MW-1UA, MW-3UA, MW-2UB accession #806006
88/09/27	AR 599	Analytical Technologies, Inc		Chain of custody for MW-1UB, MW-3UB accession #806096

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
88/09/30	AR 600	Errol L Montgomery & Assoc, Inc		Data submittal for 8/88 per admin consent order 2/19/88 for RI/FS w/Figure 1: Location map 5/88 in back pocket
88/10/03	AR 601	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #8 for 9/88 per admin consent order 2/19/88 docket #88-08
88/10/06	AR 602	Analytical Technologies, Inc		Inorganic data for MW-4UA accession #806130, general chemistry & metals
88/11/15	AR 603	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #9 for 10/88 per admin consent order 2/19/88 docket #88-08
88/12/06	AR 604	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Response to 11/22/88 ltr re info on lab analyses for RI/FS w/attch ltr to W Victor fr D Opalski w/sample identification list
88/12/15	AR 605	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #10 for 11/88 per admin consent order 2/19/88 docket #88-08
88/12/23	AR 606	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	TL: Replacement pages for appendix C of draft groundwater monitoring rpt w/attchs
89/00/00	AR 607	AZ Dept of Environmental Quality		Landfill closure guidelines w/attch closure application background information (blank)
89/01/06	AR 608	Carolyn Sites, Richard Amano Analytical Technologies, Inc	Errol L Montgomery & Assoc, Inc	TL: Quantitation rpt/chromatograms for accession #s 807208, 807158, 807108 w/attch rpts
89/01/11	AR 609	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Alternative lab analytical methods w/attch 11/1/89 ltr to William Victor fr Robert Woods re use of Thermo Jarrell Ash 61 Simultaneous ICP
89/01/11	AR 610	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Approve modification of QAPP to include new ICP methods w/attch 11/2/89 ltr re same to William Victor fr Analytical Technologies Inc

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
89/01/13	AR 611	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #11 for 12/88 per admin consent order 2/19/88 docket #88-08
89/01/25	AR 612	Analytical Technologies, Inc		Attachment B: Tuning rpts & selected bar spectra for mass spectroscopy
89/02/01	AR 613	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Response to 11/22/83 ltr re lab & chain of custody documentation for data validation w/o attchs A & B, w/attch C: Explanation re analyses methods
89/02/02	AR 614	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Documentation requested by EPA for data validation for remedial investigation, revision of mailing list w/attch updated mailing list
89/02/02	AR 615	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Correction to data validation package re EPA method 624, revision to distribution list w/attch updated distribution list for deliverables
89/02/08	AR 616	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Request review & approval of analytical methods for water & soil w/attch list of proposed methods
89/02/13	AR 617	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #12 for 1/89 per admin consent order 2/19/88 docket #88-08
89/03/07	AR 618	Dan Opalski Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Response to 2/8/89 ltr re analytical methods w/o attch annotated list of proposed methods, w/info re EPA methods at particular programs
89/03/13	AR 619	Errol L Montgomery & Assoc, Inc		Draft supplemental workplan for task F, RI/FS w/o map in back pocket
89/03/15	AR 620	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #13 for 2/89 per admin consent order 2/19/88 docket #88-08
89/04/11	AR 621	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #14 for 3/89 per admin consent order 2/19/88 docket #88-08
89/04/2[illegible]	AR 622	Mark Matyjas	Dan Opalski	Ltr: Quality assurance rpt on soil &

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Tetra Tech, Inc	Environmental Protection Agency - Region 9	groundwater sampling data w/o encl (TES 4 Cont #68-01-7351, WA #C09012)
89/05/04	AR 623	Bruce Davis AZ Dept of Water Resources	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Review of stage 1 rpt & supplemental workplan for task F, RI/FS
89/05/04	AR 624	Bruce Davis AZ Dept of Water Resources	William Victor Errol L Montgomery & Assoc, Inc	Ltr: No comments on stage 1 rpt for RI/FS & supplemental workplan for task F of RI/FS
89/05/09	AR 625	Mark Matyjas Tetra Tech, Inc	Bob Woods Analytical Technologies, Inc	TL: Request for additional info to complete data validation of groundwater metals analyses, guidelines for validations w/o attchs
89/05/15	AR 626	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #15 for 4/89 per admin consent order 2/19/88 docket #88-08
89/06/07	AR 627	Kristie Kilgore AZ Dept of Environmental Quality	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Comments re draft stage 1 RI/FS rpt, draft supplemental workplan for task F w/attch specific comments
89/06/12	AR 628	Analytical Technologies, Inc		Raw data documentation requested by Tetra Tech, v1 (ATI doc #1-434, 532-536) w/TLs 5/26/89, 6/12/89 (for v2 see AR629, doc #0222-00659)
89/06/12	AR 629	Analytical Technologies, Inc		Raw data documentation requested by Tetra Tech, v2 (ATI documents #435-531) (for v1 see AR628, doc #0222-00658)
89/06/12	AR 630	William Victor Errol L Montgomery & Assoc, Inc	Daryl Greenway CH2M Hill	TL: Additional raw data documentation to complete EPA data validation w/attch 5/26/89 TL re same to W Victor fr Analytical Technologies w/o data
89/06/15	AR 631	William Victor Errol L Montgomery & Assoc, Inc	Dainis Kleinbergs CA Regional Water Quality Control Board - Los Angeles Basin Region	Ltr: Response to problems w/lab data fr Respondents w/attch 5/26/89 ltr re same w/attch spectrum graphs to William Victor fr Analytical Technologies
89/06/15	AR 632	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #16 for 5/89 per admin consent order 2/19/88 docket #88-08

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
89/07/14	AR 633	Mark Matyjas Tetra Tech, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Draft quality assurance rpt on Analytical Tech soil & groundwater sampling data (metals, VOC, pesticides, PCBs, semi-VOC) w/attch
89/07/14	AR 634	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #17 for 6/89 per admin consent order 2/19/88 docket #88-08
89/07/25	AR 635	Dan Opalski Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Comments on draft stage 1 RI/FS rpt, draft supplemental workplan for task F
89/08/04	AR 636	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Comments on draft stage 1 RI/FS rpt & supplemental workplan for task F 3/13/89 fr EPA, AZDOWR, AZDOEQ w/attchs
89/08/14	AR 637	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	TL: Draft stage 1 RI/FS rpt w/o rpt, w/attch table of contents, replacement pages for pg 1-6 of summary of results
89/08/15	AR 638	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #18 for 7/89 per admin consent order 2/19/88 docket #88-08
89/09/01	AR 639	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Draft responses to comments on draft stage 1 rpt & supplemental workplan for task F 3/13/89 w/attchs
89/09/15	AR 640	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #19 for 8/89 per admin consent order 2/19/88 docket #88-08
89/10/05	AR 641	Errol L Montgomery & Assoc, Inc		Supplemental workplan for stage 2 of RI w/water level contours 12/88 unit A map in back pocket
89/10/05	AR 642	Errol L Montgomery & Assoc, Inc		Responses to comments on draft stage 1 rpt, draft supplemental workplan for RI/FS
89/10/05	AR 643	Errol L Montgomery & Assoc, Inc		Supplemental workplan for stage 2 RI
89/10/05	AR 644	William Victor Errol L Montgomery & Assoc, Inc	Michael Leach AZ Dept of Environmental Quality	Ltr: Confirm results of discussions re scope for supplemental workplan for stage 2 RI

MASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
89/10/13	AR 645	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #20 for 9/89 per admin consent order 2/19/88 docket #88-08
89/10/23	AR 646	Errol L Montgomery & Assoc, Inc		Supplement 1 to health & safety plan RI/FS w/Figure 5: Water level contours map 12/88 Unit A in back pocket
89/10/27	AR 647	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Health & safety plan 2/2/88 & supplement 1, 10/23/89 for stage 2 investigation, tentative field operations schedule w/o plan
89/11/01	AR 648	Rebecca Redeker AZ Dept of Environmental Quality	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Review comments supplemental workplan for stage 2 RI/FS, 10/5/89 w/attchs
89/11/01	AR 649	Rebecca Redeker AZ Dept of Environmental Quality	Dan Opalski Environmental Protection Agency - Region 9	Ltr: Comments on supplemental workplan for stage 2 RI w/attch health-based guidance levels for contaminants in drinking water & soil w/TL 2/6/89
89/11/15	AR 650	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #21 for 10/89 per admin consent order 2/19/88 docket #88-08
89/12/15	AR 651	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #22 for 11/89 per admin consent order 2/19/88 docket #88-08
89/12/29	AR 652	Errol L Montgomery & Assoc, Inc		Data submittal for 11/89 per admin consent order 2/19/88 for RI/FS
90/01/15	AR 653	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #23 for 12/89 per admin consent order 2/19/88 docket #88-08
90/01/16	AR 654	William Victor Errol L Montgomery & Assoc, Inc	Dan Opalski Environmental Protection Agency - Region 9	TL: Reissued ltr re proposed modificaitons to QAPP (date corrected fr 1989 to 1990) w/attch ltr w/attchs
90/01/31	AR 655	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Data submittal 12/89 per admin consent order 2/19/88 for RI/FS w/attch lab rpts w/TL to Montgomery & Assoc fr Sergent, Hauskins & Beckwith 11/89
90/02/08	AR 656	Dan Opalski	William Victor	Ltr: Approval of QAPP modification to

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Environmental Protection Agency - Region 9	Errol L Montgomery & Assoc, Inc	include ICP methods as alternative analytical methods, notification of new project manager
90/02/15	AR 657	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #24 for 1/90 per admin consent order 2/19/88 docket #88-08
90/02/28	AR 658	Errol L Montgomery & Assoc, Inc		Data submittal for 1/90 per admin consent order 2/19/88 for RI/FS
90/03/01	AR 659	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Notification of groundwater sampling per consent order docket #88-08, request list of constituents to be analyzed w/attch lab results
90/03/07	AR 660	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Approval of request that list of constituents to be analyzed for in samples fr onsite monitoring wells built prior to 1989 exclude trace elements
90/03/09	AR 661	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Approval of request that list of constituents analyzed for in samples fr monitoring wells built prior to 1989 exclude trace elements
90/03/14	AR 662	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #25 for 2/90 per admin consent order 2/19/88 docket #88-08
90/03/30	AR 663	Errol L Montgomery & Assoc, Inc		Data submittal for 2/90 RI/FS
90/03/30	AR 664	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Data submittal for 2/90 - Appendix F: Results of stage 2 air investigation w/attchs, handwritten notes re concerns about rpt
90/04/06	AR 665	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #26 for 3/90 per admin consent order 2/19/88 docket #88-08
90/04/25	AR 666	Rebecca Redeker AZ Dept of Environmental Quality	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Lab analyses fr split samples fr MW-6UA on 11/28/89 & MW-7UA on 2/7/90 per admin consent order 2/19/88 w/attchs
90/04/30	AR 667	William Victor	Thomas Dunkelman	TL: Data submittal for 3/90 per admin

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	consent order 2/19/88 for RI/FS w/o data
90/05/02	AR 668	Rebecca Redeker AZ Dept of Environmental Quality	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Tax map detailing parcels surrounding site, tax ownership records w/attchs
90/05/02	AR 669	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #27 for 4/90 per admin consent order 2/19/88 docket #88-08
90/05/31	AR 670	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Data submittal for 4/90 per admin consent order 2/19/88 for RI/FS w/attch lab rpts
90/06/15	AR 671	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #28 for 5/90 per admin consent order 2/19/88 docket #88-08
90/06/29	AR 672	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Data submittal for 5/90 per admin consent order 2/19/88 for RI/FS w/attch lab rpts
90/07/15	AR 673	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #29 for 6/90 per admin consent order 2/19/88 docket #88-08
90/07/31	AR 674	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Data submittal for 6/90 per admin consent order 2/19/88 for RI/FS w/attch draft summary of water level measurements
90/08/15	AR 675	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Revised data submittal for 2/90 - corrected data/conclusions for attached appendix F: Results of stage 2 air investigaiton
90/08/15	AR 676	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #30 for 7/90 per admin consent order 2/19/88 docket #88-08
90/08/23	AR 677	Randolph Fish Planning Research Corp	Thomas Dunkelman Environmental Protection Agency - Region 9	Memo: Risk assessment methodology w/TL to Thomas Dunkelman fr Randolph Fish, 8/23/90
90/08/28	AR 678	William Victor Errol L Montgomery &	Thomas Dunkelman Environmental Protection	TL: Data submittal for 7/90 per admin consent order 2/19/88 for RI/FS w/attch

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Assoc, Inc	Agency - Region 9	lab rpts
90/09/11	AR 679	Thomas Dunkelman Environmental Protection Agency - Region 9	Dave Walker AZ Game & Fish Dept	Ltr: Request assistance in identification of biological receptors in vicinity of site
90/09/14	AR 680	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #31 for 8/90 per admin consent order 2/19/88 docket #88-08
90/09/18	AR 681	AZ Dept of Environmental Quality		Request for comments w/attch draft human health-based guidance levels for contaminants in drinking water & soil 9/90
90/09/28	AR 682	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Data submittal for 8/90 per admin consent order 2/19/88 for RI/FS w/attch lab rpts, chain of custody records
90/10/11	AR 683	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #32 for 9/90 per admin consent order 2/19/88 docket #88-08
90/10/16	AR 684	Thomas Dunkelman Environmental Protection Agency - Region 9	Sam Spiller US Dept of Interior - Fish & Wildlife Service	Ltr: Request assistance in identification of biological receptors in area site
90/10/18	AR 685	Randolph Fish Planning Research Corp	Thomas Dunkelman Environmental Protection Agency - Region 9	Risk assessment exposure pathway analysis rpt (Cont #68-W9-0009, WA #C09035)
90/10/19	AR 686	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Data submittal for 9/90 per admin consent order 2/19/88 for RI/FS w/o data
90/10/23	AR 687	Sam Spiller US Dept of Interior - Fish & Wildlife Service	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Response to 10/16/90 ltr re species list for site, biological reosurces impact
90/11/02	AR 688	Kent Kitchingman Environmental Protection Agency - Region 9	Thomas Dunkelman Environmental Protection Agency - Region 9	Memo: No comments on remedial investigation (RI) rpt re quality of data
90/11/14	AR 689	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #33 for 10/90 per admin consent order 2/19/88 docket #88-08

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
90/11/19	AR 690	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Daniel Blackson Arizona Public Service Co	Ltr: Preliminary information on proposal to extract & discharge groundwater to 91st Ave treatment plant effluent pipeline w/attchs
90/11/26	AR 691	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Comments on RI rpt & liquid waste evaluation w/attch comments by EPA, AZDOEQ, AZDOWR
90/11/27	AR 692	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Data submittal for 10/90 per admin consent order 2/19/88 for RI/FS w/attch lab rpts
90/12/03	AR 693	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Agenda for 12/11/90 meeting, revision to distribution list w/attch new distribution list for deliverables
90/12/04	AR 694	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #34 for 11/90 per admin consent order 2/19/88 docket #88-08 for RI/FS
90/12/06	AR 695	Stephen Quigley Conestoga-Rovers & Associates, Ltd	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: Comments on proposed risk assessment methodology
90/12/14	AR 696	AZ Game & Fish Dept	Environmental Protection Agency - Region 9	Species potentially occurring in site area w/attch A: Special species list 8/90, FAX cover sheet to Thomas Dunkelman fr Sherry Crouch, 12/14/90
90/12/14	AR 697	William Werner AZ Game & Fish Dept	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Response to conversation re wildlife in area of site
90/12/21	AR 698	Randolph Fish Planning Research Corp	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Technical memo re identification of chemicals of potential concern for risk assessment w/attch memo
91/01/03	AR 699	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Tentative agenda for review of draft responses to comments during week of 1/7/91
91/01/04	AR 700	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments on proposed risk assessment methodology
91/01/04	AR 701	Jacqueline Maye, Michael	Thomas Dunkelman	Ltr: Comments re additional work at

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Leach AZ Dept of Environmental Quality	Environmental Protection Agency - Region 9	special pits & instalation of additional monitoring well w/attch special pits/pit #1 HVOC discharge summary
91/01/11	AR 702	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Proposal for installation of Unit B monitoring well & scope of work for soil gas survey on behalf of Hassayampa Steering Committee (HSC)
91/01/15	AR 703	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #35 for 12/90
91/01/15	AR 704	Thomas Dunkelman Environmental Protection Agency - Region 9	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Ltr: Approval for proposed unit B monitoring well & soil gas survey
91/01/16	AR 705	Thomas Dunkelman Environmental Protection Agency - Region 9	Grant Gibson AZ Dept of Water Resources	Ltr: Draft risk assessment rpt for review & comment w/o rpt
91/01/16	AR 706	Thomas Dunkelman Environmental Protection Agency - Region 9	Jacqueline Maye AZ Dept of Environmental Quality	Ltr: Draft risk assessment rpt for review & comment w/o rpt
91/01/16	AR 707	Thomas Dunkelman Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: Draft risk assessment rpt for review & comment w/o rpt
91/01/25	AR 708	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Response to 1/15/91 ltr & proposed scope of work for additional unit B monitor well & soil gas survey w/attch location map
91/02/00	AR 709	Errol L Montgomery & Assoc, Inc		Liquid waste evaluation
91/02/07	AR 710	Errol L Montgomery & Assoc, Inc		Responses to comments on draft remedial investigation (RI) rpt & liquid waste evaluation
91/02/07	AR 711	Errol Montgomery, William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Final RI rpt v1: Text, tables & illustrations per admin order docket #88-08 for RI/FS w/figure 15: Potentiometric contours 1986-1988 in back pocket

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
91/02/07	AR 712	Errol Montgomery, William Victor Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	Final remedial investigation rpt v2: Appendices A - M per admin order docket #88-08 for RI/FS
91/02/07	AR 713	Bruce Davis AZ Dept of Water Resources	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: No comments on baseline risk assessment
91/02/08	AR 714	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #36 for 1/91 per admin consent order 2/19/88 docket #88-08 for RI/FS
91/02/11	AR 715	Environmental Protection Agency		NPL site narrative w/attch Federal Register excerpt (v56(28)(2/11/91):5600-1)
91/02/12	AR 716	James Mathieu Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Request for additional data needed to evaluate SUTRA modeling results w/attch references list
91/02/27	AR 717	AZ Dept of Environmental Quality	Environmental Protection Agency - Region 9	Comments on baseline risk assessment w/FAX TL to Thomas Dunkelman fr Jacqueline Maye 2/27/91
91/03/08	AR 718	Errol L Montgomery & Assoc, Inc		Comments on draft baseline risk assessment
91/03/08	AR 719	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Scope for voluntary work proposed for site w/attch figure 1: Location photograph 1991 (redacted FOIA ex 5)
91/03/08	AR 720	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #37 for 2/91 per admin consent order docket #88-08 w/attch distribution list for deliverables
91/03/11	AR 721	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Comments on revised remedial investigation (RI) rpt w/attch
91/03/14	AR 722	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Concerns re quality of draft risk assessment, costs not chargeable through admin consent order docket #88-08
91/03/15	AR 723	William Victor Errol L Montgomery &	Thomas Dunkelman Environmental Protection	Ltr: Request for data fr PRC needed to evaluate SUTRA modeling results

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Assoc, Inc	Agency - Region 9	
91/03/20	AR 724	Randolph Fish Planning Research Corp	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Response to 2/25/91 ltr re SUTRA simulations to support draft baseline risk assessment w/attchs (Cont #68-W9-0009, WA #C09035)
91/03/21	AR 725	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Addendum to final remedial investigation (RI) rpt
91/03/22	AR 726	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments on draft risk assessment rpt, proposed meetings, data requested on SUTRA model
91/03/29	AR 727	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Risk assessment issues
91/04/04	AR 728	Thomas Dunkelman Environmental Protection Agency - Region 9	Jacqueline Maye AZ Dept of Environmental Quality	Ltr: Summary of agenda for 4/9/91 meeting
91/04/04	AR 729	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Approval of final RI rpt 2/7/91
91/04/04	AR 730	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Response to 1/25/91 ltr re scope of work for additional Unit B monitoring well, soil gas survey
91/04/05	AR 731	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Schedule for additional field work at site (construct monitor wells MW-6UB, MW-9UA, MW-9UB, MW-10UA, MW-10UB & soil gas survey)
91/04/08	AR 732	James Mathieu Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Results fr groundwater flow & transport modeling discussions at 4/3/91 meeting
91/04/15	AR 733	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #38 for 3/91 per admin consent order docket #88-08 for RI/FS
91/04/22	AR 734	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Scope for soil borings & pesticide sampling, status of field operations at site w/attch : stribution, gas

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
				chromatography results
91/04/25	AR 735	Tracer Research Corp	Conestoga-Rovers & Associates, Ltd	Sampling & QA/QC procedures w/attch TL to Thomas Dunkelman fr Stephen Quigley 4/25/91
91/04/30	AR 736	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Data submittal for 3/91 per admin consent order 2/19/88 for RI/FS w/attch data
91/05/09	AR 737	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Suggestions for analytical modeling approach for review prior to meeting re same
91/05/14	AR 738	Jess Lotwala Maricopa County, AZ - Health Dept	Kathy Diehl Environmental Protection Agency - Region 9	Ltr: Regulations apply to both soil & water w/attch guidelines for remediation of contaminated soil, Air Pollution Control Regulations 2 & 3
91/05/15	AR 739	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #39 for 4/91 per admin consent order docket #88-08 for RI/FS
91/05/17	AR 740	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Comments on QA/QC procedures for soil gas survey w/attch comments
91/05/20	AR 741	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Notification of voluntary expansion of scope of field work at site w/attch location map
91/05/21	AR 742	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Quality assurance/quality control procedures for soil gas survey w/attch location map
91/05/31	AR 743	Errol L Montgomery & Assoc, Inc		Data submittal for 4/91
91/06/10	AR 744	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Groundwater modeling approach of EPA & PRC for risk assessment rpt w/attch 6/4/91 ltr re same to T. Dunkelman fr R. Fish w/attchs
91/06/10	AR 745	Thomas Dunkelman Environmental Protection Agency - Region 9	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Ltr: Summary of EPA response to your 5/21/91 ltr re proposed soil gas survey w/o encl

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
91/06/15	AR 746	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthl. progress rpt #40 for 5/91 per admin consent order docket #88-08 for RI/FS
91/06/18	AR 747	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Possible alternative to using galvanized probes in soil gas survey w/attch diagrams
91/06/18	AR 748	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Schedule for 6/91 groundwater sampling round to include request fr AZDOEQ
91/06/21	AR 749	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Response to comments on quality assurance/quality control (QA/QC) procedures for soil gas survey
91/06/24	AR 750	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Approval for soil gas survey
91/06/27	AR 751	Errol L Montgomery & Assoc, Inc		Interim rpt of results fr vadose zone monitor borings
91/06/28	AR 752	Errol L Montgomery & Assoc, Inc		Data submittal for 5/91
91/06/28	AR 753	Vicki Rosen Environmental Protection Agency - Region 9	Kay Blanton City of Buckeye, AZ	Ltr: Transmittal of remedial investigation rpt v 1 & 2 w/o rpt
91/06/28	AR 754	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Data submittal for 5/91 per admin consent order 2/19/88 for RI/FS w/o data
91/07/01	AR 755	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments on proposed analytical modeling procedure for risk assessment
91/07/02	AR 756	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Summary of results fr 4/91 technical work group (TWG) meetings w/attchs
91/07/03	AR 757	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Confirm final details of quality assurance/quality control procedures for soil gas survey w/attch sample chromatograms

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
91/07/12	AR 758	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #41 for 6/91 per admin consent order docket #88-08 for RI/FS
91/07/29	AR 759	Errol L Montgomery & Assoc, Inc		Supplemental data submittal for soil borings
91/07/29	AR 760	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Schedule for sampling of vadose zone monitor borings
91/07/29	AR 761	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Supplemental data submittal for soil borings SB-17, SB-18, SB-19 w/o lab analysis rpts
91/07/30	AR 762	Errol L Montgomery & Assoc, Inc		Data submittal for 6/91
91/07/30	AR 763	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Supplemental data submittal for photographs per admin consent order 2/19/88 for RI/FS w/attch photos 20 - 3.5x5 color w/captions, 6/4/91
91/07/30	AR 764	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Data submittal for 6/91 per admin consent order 2/19/88 for RI/FS w/o data
91/07/31	AR 765	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Correct photographs for drilling & sampling operations for soil borings drilled in pits 1, 3b & 3c w/ photos 15 - 3.5x5.25 color captioned
91/08/12	AR 766	AZ Dept of Health Services	AZ Dept of Environmental Quality	Comment on revised risk assessment w/attch TL to Jacqueline Maye fr Winchester Chromec 8/12/91 re task assignment #37 to cont #2207-000000-3-3-DR-8074
91/08/15	AR 767	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #42 for 7/91 per admin consent order docket #88-08 for RI/FS
91/08/23	AR 768	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments on final draft risk assessment w/attch substantive comments
91/08/30	AR 769	Errol L Montgomery &		Data submittal for 7/91 per admin

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Assoc, Inc		consent order 2/19/88 for RI/FS
91/08/30	AR 770	Errol L Montgomery & Assoc, Inc		Results fr vadose zone monitor borings
91/09/07	AR 771	Thomas Dunkelman Environmental Protection Agency - Region 9	Grant Gibson AZ Dept of Water Resources	Ltr: Request identification of AZ ARARs applicable to site
91/09/07	AR 772	Thomas Dunkelman Environmental Protection Agency - Region 9	Jacqueline Maye AZ Dept of Environmental Quality	Ltr: Request identification of AZ ARARs applicable to site
91/09/12	AR 773	Randolph Fish Planning Research Corp	Thomas Dunkelman Environmental Protection Agency - Region 9	Final baseline risk assessment rpt v2 of 2 - appendices (TES 12 Cont #68-W9-0009, WA #C09035)
91/09/13	AR 774	Randolph Fish Planning Research Corp	Thomas Dunkelman Environmental Protection Agency - Region 9	Final baseline risk assessment rpt v1 of 2 (TES 12 Cont #68-W9-0009, WA #C09035)
91/09/13	AR 775	William Victor Errol L Montgomery & Assoc, Inc	Thomas Adkisson Planning Research Corp Environmental Management, Inc	Monthly progress rpt #43 for 8/91 per admin consent order docket #88-08 for RI/FS
91/09/26	AR 776	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Data submittal for 8/91 per admin consent order 2/19/88 for RI/FS w/attch geotechnical lab analysis, w/o data
91/10/00	AR 777	Errol L Montgomery & Assoc, Inc		Soil gas survey
91/10/00	AR 778	Errol L Montgomery & Assoc, Inc		Results of supplemental work
91/10/00	AR 779	Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	Technical screening memorandum w/transparent overlay for figure 4 in pocket (Ref #2141)
91/10/15	AR 780	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #44 for 9/91 per admin consent order docket #88-08 for RI/FS
91/10/30	AR 781	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Data submittal for 9/91 per admin consent order 2/19/88 for RI/FS w/attch data

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
91/10/30	AR 782	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Revision to 8/30/91 results fr vadose zone monitor borings rpt w/o replacement pages
91/10/31	AR 783	William C Winter, Manager City of Fullerton	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #45 for 10/91 per admin consent order docket #88-08 for RI/FS
91/11/29	AR 784	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Data submittal for 10/91 per admin consent order 2/19/88 for RI/FS w/attch lab rpts for groundwater 9/91 sampling round
91/12/06	AR 785	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #46 for 11/91 per admin consent order docket #88-08 for RI/FS
91/12/06	AR 786	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Data submittal for 11/91 per admin consent order 2/19/88 for RI/FS w/o data
91/12/12	AR 787	Thomas Dunkelman Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: Comments by EPA, AZDOEQ, AZDOWR on technical screening memo 10/28/91, ltrs re potential ARAR w/attchs
91/12/12	AR 788	Thomas Dunkelman Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: Comments on technical screening memo w/attch EPA comments, agenda for 12/19/91 mtg, w/o comments fr AZDEQ/AZDWR, ltrs re ARAR (redacted FOIA 5)
92/01/00	AR 789	Environmental Protection Agency - Region 9		Fact Sheet: EPA announces availability of remedial investigation & risk assessment rpts
92/01/03	AR 791	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Proposed scope for pre-design work in preparation for remedial action design w/attch location map for proposed pre-design borings
92/01/09	AR 792	Robert Ogilvie Environmental Protection Agency - Region 9	Jacqueline Maye AZ Dept of Environmental Quality	Ltr: Request information re AZ ARARs w/attch NIBW ROD ARAR section, OSWER fact sheet re ARAR identification, copy of 9/30/91 ltr fr AZDOEQ re ARARs
92/01/15	AR 793	William Victor Errol L Montgomery &	Thomas Dunkelman Environmental Protection	Monthly progress rpt #47 for 12/91 per admin consent order docket #88-08 for

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Assoc, Inc	Agency - Region 9	RI/FS
92/01/28	AR 794	Thomas Dunkelman Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: Comments on proposed scope for pre-design work, request revised SOW prior to start of field work w/attch EPA comments
92/01/31	AR 795	Jacqueline Maye AZ Dept of Environmental Quality	Robert Ogilvie Environmental Protection Agency - Region 9	Ltr: Response to 1/9/92 request re info on ARARs w/attch State chemical-, action- & location-specific ARAR/TBCs, w/o draft doc re referenced MCL/HBGLs
92/01/31	AR 796	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Data submittal for 12/91 per admin order docket #88-08 for RI/FS
92/02/11	AR 797	Thomas Dunkelman Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: AZDEQ comments on proposed scope for pre-design work w/attch ltr re same to Thomas Dunkelman fr Jacqueline Maye 2/3/92
92/02/12	AR 798	Thomas Dunkelman Environmental Protection Agency - Region 9	Grant Gibson AZ Dept of Water Resources	Ltr: Comment period for feasibility study (FS) report
92/02/12	AR 799	Thomas Dunkelman Environmental Protection Agency - Region 9	Jacqueline Maye AZ Dept of Environmental Quality	Ltr: Comment period for feasibility study (FS) review
92/02/14	AR 800	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #48 for 1/92 per admin order docket #88-08 for RI/FS
92/02/27	AR 801	William Vance Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Data submittal for 1/92 per admin order docket #88-08 for RI/FS w/o data
92/03/12	AR 802	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Response to EPA concerns re existing soil cap thickness w/attch location map, diagrams of soil cap section A-A', soil cap section B-B'
92/03/13	AR 803	Thomas Dunkelman Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: Comments on draft feasibility study w/attch EPA comments 2/14/92, AZDWR comments 3/2/92 w/attch A: AZ ARARs, TL to T Dunkelman fr G Gibson 3/2/92

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
92/03/15	AR 804	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #49 for 2/92 per admin order docket #88-08 for RI/FS
92/03/16	AR 805	Jeffrey Kulon AZ Dept of Environmental Quality	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments on draft feasibility study (FS)
92/03/23	AR 806	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Revised scope of work (SOW) for pre-design work w/attch location map for borings w/marginalia, responses to EPA/AZDEQ comments on 1/3/92 SOW
92/03/23	AR 807	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Notice of scheduled groundwater sampling round for 4/92
92/03/30	AR 808	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Rescheduling of 4/92 groundwater sampling round, revised distribution list, 4/8/92 meeting, pre-design work w/attch revised distribution list
92/03/30	AR 809	Thomas Dunkelman Environmental Protection Agency - Region 9	William Victor Errol L Montgomery & Assoc, Inc	Ltr: Approval of revised scope for pre-design work
92/03/31	AR 810	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	TL: Data submittal for 2/92 per admin order docket #88-08 for RI/FS w/o data
92/04/22	AR 811			List: EPA response selection guidance documents consulted during development & selection of response action for Hassayampa Landfill Superfund Site, AZ
92/04/01	AR 812	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Scheduling of 4/92 groundwater sampling round & pre-design work
92/04/15	AR 813	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Monthly progress rpt #50 for 3/92 per admin order docket #88-08 for RI/FS
91/08/23	AR 814	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments on draft final risk assessment w/attch substantive comments (redacted FOIA ex 5)

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona

*** ADMINISTRATIVE RECORD ***

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
90/12/21	AR 815	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments & draft response on draft RI rpt & liquid waste evaluation w/attch comments fr EPA, AZDOEQ, AZDOWR (redacted FOIA ex 5)
92/05/00	AR 816	Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	Results of preliminary hydraulic capture zone simulations & recommendations for groundwater extraction & injection...
92/05/00	AR 817	Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	Feasibility study
92/05/08	AR 818	Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	Response to agency comments draft feasibility study report
92/05/11	AR 819	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: New aerial photo of former hazardous waste area
92/05/20	AR 820	Thomas Dunkelman Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: EPA approval of the feasibility study rpt

No. of Records: 819
\arfinal1.rpt

MASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona
ADMINISTRATIVE RECORD INDEX
Supplement 1

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
89/03/13	AR 821	Conestoga-Rovers & Associates, Ltd	Environmental Protection Agency - Region 9	Stage I rpt for RI/FS, v1 of 3, w/4 oversize maps, (draft)
89/03/13	AR 822	Conestoga-Rovers & Associates, Ltd	Environmental Protection Agency - Region 9	Stage I rpt for RI/FS, v2 of 3, w/appendices A-E, (draft), (see also doc #00755)
89/03/13	AR 823	Conestoga-Rovers & Associates, Ltd	Environmental Protection Agency - Region 9	Stage I rpt for RI/FS area v3 of 3, (appendices F-N), (draft), (see also doc #00755)
90/10/00	AR 824	Conestoga-Rovers & Associates, Ltd	Environmental Protection Agency - Region 9	Liquid waste evaluation w/TL to Thomas Dunkelman fr Stephen Quigley 10/9/90
91/06/11	AR 825	Doris Heisler Tonopah Valley Association	Environmental Protection Agency - Region 9	Ltr: Comments on, and request for, explanation of cleanup procedures for use at site
91/09/30	AR 826	Jacqueline Maye Arizona Dept of Environmental Quality	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Lists state ARARs for inclusion in ROD or any permanent clean-up solution w/list of additional ARARs
91/11/14	AR 827	Bruce Davis AZ Dept of Water Resources	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Response to ltr of 9/7/91 re ARARs for site w/list of proposed ARARs
92/02/00	AR 828	Conestoga-Rovers & Associates, Ltd	Environmental Protection Agency - Region 9	Response to agency comments technical screening memorandum, vadose zone monitor boring rpt, soil gas survey rpt w/TL fr Quigley to Dunkelman 2/14/92
92/03/29	AR 829	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Transmits data submittal for 4/92 re administrative consent order of 2/19/88 for RI/FS w/tables & drawings & w/attch
92/04/20	AR 830	Robert Ogilvie Environmental Protection Agency - Region 9	James Derouin Meyer, Hendricks, Victor, Osborn & Maledon	Ltr: Draft FS re applicability of 3 pound volatile organic compound emission per day to remediation project at site
92/04/23	AR 831	Jeffrey Kulon Arizona Dept of Environmental Quality	William Victor Environmental Managers & Auditors, Inc	Ltr: Delay in sampling project due to bad communication & lack of coordination, requests improvement
92/04/30	AR 832	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Transmits data submittal for March 1992, re administrative consent order for 2/19/88 w/o attch

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona
ADMINISTRATIVE RECORD INDEX
Supplement 1

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
92/05/04	AR 833	William Victor Errol L Montgomery & Assoc, Inc	Jeffrey Kulon Arizona Dept of Environmental Quality	Ltr: Project scheduling, tentative schedule for soil gas sampling & potential location for monitoring well & transmits 4/23/92 ltr w/attch & w/map
92/05/04	AR 834	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Target zone for modeling operations re EPA comments on technical screening memo w/map
92/05/05	AR 835	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr; Tentative schedule oil gas sampling, soil samples obtained by ADEQ, comments by ADEQ, potential additional monitor well, gw monotoring frequency
92/05/15	AR 836	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Monthly progress rpt #51, 4/92, re administrative consent order for RI/FS
92/05/18	AR 837	Jeffrey Kulon Arizona Dept of Environmental Quality	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments on draft proposed plan/fact sheet
92/05/29	AR 838	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Transmits data submittal for 4/92 re administrative consent order 2/19/88 or RI/FS w/o attch
92/06/00	AR 839	Environmental Protection Agency - Region 9		Fact sheet: EPA announces proposed plan for cleanup at Hassayampa landfill superfund site
92/06/01	AR 840	William Victor Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Confirmatory soil gas sampling round
92/06/02	AR 841	Thomas Dunkelman Environmental Protection Agency - Region 9		Press release: Cleanup plan available for public comment
92/06/04	AR 842	Thomas Dunkelman Environmental Protection Agency - Region 9	Jeffrey Zulon Arizona Dept of Environmental Quality	TL: Draft Record of decision
92/06/11	AR 843	Joann Klemm Independent Court Reporters		Transcript of Public meeting, Buckeye community center 6/11/92
92/06/15	AR 844	William Victor	Thomas Dunkelman	Ltr: Monthly progress rpt #52 for 5/92

HASSAYAMPA LANDFILL SUPERFUND SITE
Maricopa County, Arizona
ADMINISTRATIVE RECORD INDEX
Supplement 1

DATE yy/mm/dd	AR #	AUTHOR	ADDRESSEE	SUBJECT
		Errol L Montgomery & Assoc, Inc	Environmental Protection Agency - Region 9	re administration consent order for RI/FS w/o encl w/attch distribution list
92/06/16	AR 845	Buckeye Independent		Newsclipping: 30 attend meeting on Hasayampa landfill
92/06/29	AR 846	Stephen Quigley Conestoga-Rovers & Associates, Ltd	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments of steering committee on proposed plan, w/cap design requirements
92/06/29	AR 847	Dennis Hall Errol L Montgomery & Assoc, Inc	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Transmittal of Liquid waste evaluation rpt & Stage I rpt RI/FS w/o attchs
92/06/30	AR 848	Conestoga-Rovers & Associates, Ltd	Environmental Protection Agency - Region 9	Data submittal for 5/92 re administrative consent order 2/19/88 for RI/FS, w/TL to Dunkelman fr Victor 6/30/92
92/06/30	AR 849	Jeffrey Kulon Arizona Dept of Environmental Quality	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments on proposed plan w/encl
92/06/30	AR 850	Herb Dishlip AZ Dept of Water Resources	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Completion of review of draft record of decision, AZ Dept of Water Resources has no comment on this document
92/07/01	AR 851	Jeffrey Kulon Arizona Dept of Environmental Quality	Thomas Dunkelman Environmental Protection Agency - Region 9	Ltr: Comments on draft record of decision
92/07/07	AR 852	Vicki Rosen Environmental Protection Agency - Region 9	Doris Heisler Tonopah Valley Association	Ltr: Transmittal of transcript fr Hassayampa landfill meeting in Buckeye w/o attch

No. of Records: 32
\arfinal1.rpt